



# DUN'S REVIEW

and Modern Industry

A DUN & BRADSTREET PUBLICATION

OCTOBER 1956 75c

SPECIAL EMPHASIS FEATURE:  
**TOP MANAGEMENT CONTROL**

COVER: PAGE 5

"Little things" will mean  
big problems on the  
production line, too!



**ELGIN**

can mass produce your miniaturized assemblies at lower cost

As more companies plan for miniaturized production they encounter the problem of handling small parts efficiently. Many leading producers solve this difficulty by letting Elgin "thread the needle" for them. Elgin has the broad experience and specialized facilities to produce small assemblies in volume at lower cost. After all, miniaturization has been our business for years.

*Read about Elgin's "Practical Miniaturization." Our booklet tells how Elgin has helped others . . . how Elgin can help you. Write today for your copy.*



**ELGIN NATIONAL WATCH COMPANY**



MICRONICS DIVISION • ELGIN, ILLINOIS



# Some good spots for your new plant site

## LIVONIA, MICH.

**A growth location.** Between Detroit and Plymouth in the heart of the Motor Belt. Trackside properties up to 100 acres with all utilities at hand. The area also offers excellent highways. And few others can boast of as large a pool of skilled labor.

## MUSKEGON, MICH.

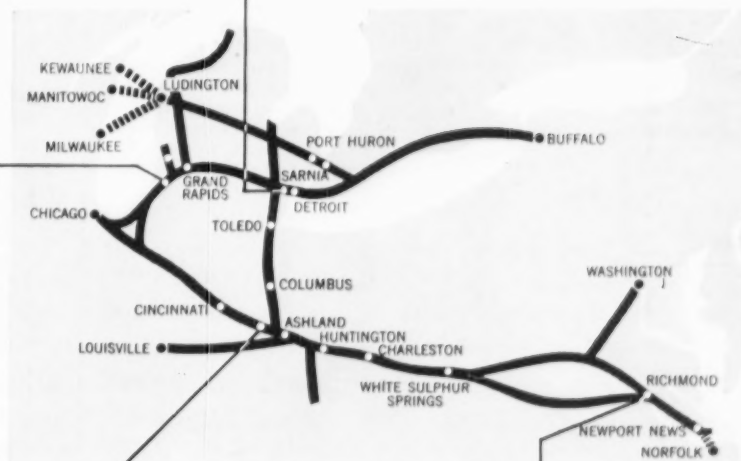
**Michigan's Largest Port on Lake Michigan.** Lake water and salt deposits in unlimited supply. First class rail, water, air and highway transport. Good sites on C&O lines in the city, to the north, and to the south. Add a bonus here in attractive living and good recreation.

## SOUTH PORTSMOUTH, KY.

**Ohio River vantage point.** South Portsmouth is just across the Ohio river from Portsmouth, Ohio, one of the few cities in the country with a real surplus of skilled labor, due to completion of the nearby AEC plant. It is the station for Portsmouth on the C&O mainline with direct service to all points for both freight and passengers. Good plant sites are available fronting on both rail and river.

## RICHMOND, VA.

**Gateway to the Southeast.** One of the best distributing points for the Southeast is Richmond, with its network of rail lines fanning out in every direction. The 200 acre airport Industrial District is within Richmond switching limits and adjoins the Byrd Airport. Ford Motor and Allis Chalmers have plants here now.



"WHERE IS THE BEST SPOT FOR YOU?" Write for new booklet describing these and many other choice Industrial Sites available along the C&O. Address: Wayne C. Fletcher, Director of Industrial Development, Terminal Tower, Cleveland 1, Ohio.

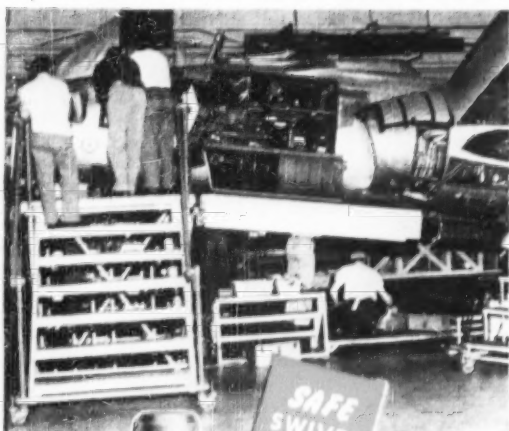


### Chesapeake and Ohio Railway

SERVING: VIRGINIA • WEST VIRGINIA • KENTUCKY • OHIO • INDIANA • MICHIGAN • SOUTHERN ONTARIO

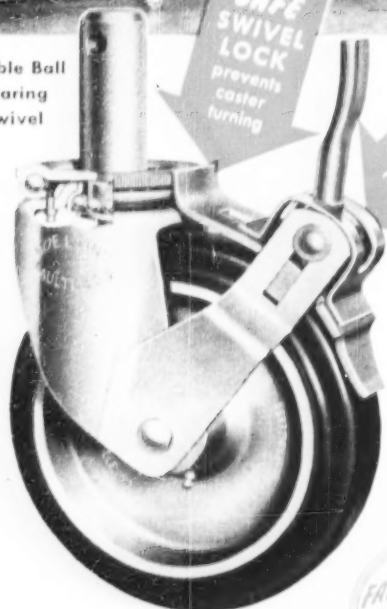
# NOELTING **Faultless** CASTER MATERIALS HANDLING FACTS

**CHANCE VOUGHT AIRCRAFT, DALLAS, PROTECTS  
EMPLOYEES ON MOBILE SCAFFOLDS WITH  
FAULTLESS DOUBLE LOCKING CASTERS**



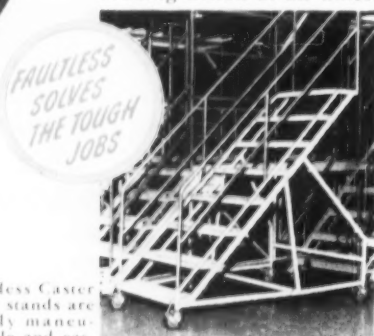
A completely safe, stable, and mobile work scaffold is being used by Chance Vought Aircraft, Dallas, in conjunction with precision assembly work on F7U-3 Cutlass frames and engines. Chance Vought's Plant Engineering, Safety and Maintenance Department attacked this problem with the aid of Faultless engineers, and selected the Faultless F900 Series scaffold caster, which had been sampled, tested and approved. Combining a well designed scaffold with the Faultless F900 Double locking Casters has resulted in the development and use of equipment that easily meets all their requirements.

Double Ball  
Bearing  
Swivel



**PROTECTS WORKERS  
ON RACKS, LADDERS,  
SCAFFOLDS, PLATFORMS**

The Faultless F900 Series is designed with an easy-to-use foot-operated brake lever which simultaneously locks both swivel and wheel. It is thus possible to greatly simplify the design and increase the safety of the scaffolds. Brake shoe compensates for wheel wear to insure full braking action at all times.



Faultless Caster work stands are highly maneuverable and easily group-packed when not in use. Do YOU have a work platform problem? Our experienced engineers will gladly provide you with helpful caster data if you simply phone or write, no obligation.

## **SERIES F900 MEDIUM DUTY SWIVEL TRUCK CASTER**

The F900 Series incorporates precision formed, and hardened double ball bearing swivel construction. The lower raceway is machined from steel bar stock for surplus strength and long life. Shown with Vulcanized Tired Wheel. Available with Semi-Steel, Renewable Tired, Ruberex and Plaskite Wheels.

## **FAULTLESS CASTER CORPORATION EVANSVILLE 7, IND.**

Offices in Atlanta, Baltimore, Boston, Buffalo, Chicago, Cleveland, Dallas, Detroit, Grand Rapids, High Point, Indianapolis, Los Angeles, New Orleans, New York, Philadelphia, Portland, Seattle, St. Louis, Canada: Stratford, Ontario.

## **DUN'S REVIEW and Modern Industry**

READING  
AND  
ROUTING  
MEMORANDA  
↓

### **The Case Against Variable Annuities 41**

FREDERIC W. ECKER  
*President, Metropolitan Life Insurance Company*  
G. KEITH FUNSTON  
*President, New York Stock Exchange*

A sequel to the statement for variable annuities that appeared last month are these views by two men opposed to variable annuities as a form of insurance.

### **New Materials that Bounce.....43**

ANNETTA R. GARDNER  
*Industrial Editor*

This is the second in a series of discussions on the advantages and disadvantages of rubber-like materials. Here are polyethylene and polyurethane rubbers.

### **14 Important Ratios for Retailers....46**

ROY A. FOULKE  
*Vice-President, Dun & Bradstreet, Inc.*

These guideposts for twelve retail lines appear for the 25th consecutive year and provide a sound basis for measuring the success and stability of a business.

### **Why Did He Quit?.....48**

ALFRED G. LARKE  
*Employer Relations Editor*

Only one side is presented, but the twelve points it brings out are worth considering by any management interested in keeping the men who are on the rise.

### **Who Speaks for Your Company— and Why?.....51**

D. WERNER BURKE

It is as important to know when not to speak as it is to know when to speak. Here are covered not only the company problems, but those of the individual also.

### **BETTER CONTROLS ARE COMING.....57**

THOMAS KENNY  
*Marketing Editor*

A multi-part report emphasizing the need for improved communication lines at the top management level as an essential element in making decisions and maintaining adequate control over the operations.

### **Introducing Our Executive Editor . . . .**

With this issue of DUN'S REVIEW AND MODERN INDUSTRY, M. Joseph Doohar joins our staff as Executive Editor. He leaves the post of Editor-in-Chief of the American Management Association after 19 years, during which he has had a major role in developing the Association's program of management periodicals and other publications.

Subscription: \$5 a year in U.S.A. and Possessions, and Canada. Elsewhere \$10. Single copy, 75 cents. Please state title and employing company when subscribing.

Copyright © 1956 by Dun & Bradstreet Publications Corporation. Copyrighted under International Copyright Convention. All rights reserved under Pan American Copyright Convention. The title DUN'S REVIEW AND MODERN INDUSTRY is registered in the U.S. Patent Office.

This magazine is indexed in the Industrial Arts Index, in the Public Affairs Information Service, and also semi-annually in an index available upon request to the publishers. . . . Member ABC, BPA, NBP, SBME, and MPA . . . . Printed in U.S.A.

O C T O B E R 1 9 5 6

D E P A R T M E N T S

Heard in Washington.....	7
Views of officials on monetary policies	
Voice of Industry.....	11
Business leaders answer our questions	
Highlights and Sidelights.....	16
Items and ideas from the industrial scene	
The Trend of Business.....	23
The latest look at business conditions	
Editorial.....	39
Let's play politics for all it's worth	
Frontispiece.....	40
Photograph by Helen Lee	
Executive Bookshelf.....	117
Keeping up with the business literature	
New Methods and Materials.....	121
More advances on the industrial fronts	
Films for Management.....	129
Visual aids that can train and inform	
Employer Relations.....	139
Tips on easing each other's burdens	
Sales and Distribution.....	143
Notes on competence and competition	
<i>Plus Featurettes</i>	
Progress in Profit-sharing.....	34
A new twist to an old plan bears fruit	
You Asked for It.....	36
News about our November issue	
Training Programs Pay Off.....	137
How a small company profited by it	



*The Cover*

Training at the U. S. Navy Salvage School includes cutting steel obstructions as well as many other kinds of underwater rescue and repair work at Bayonne, N. J., by men whose skill and daring are illustrious.

COLOR TRANSPARENCY BY RUDY ARNOLD

Published monthly by Dun & Bradstreet Publications Corporation. Editorial, advertising, and subscription office: 99 Church Street, New York 8, N.Y., Dghy 9-3300. Publication office: 300 W. Adams Street, Chicago, Ill. Address all correspondence to New York offices.

The DUN & BRADSTREET organization serves American business in the promotion and protection of trade through its varied services supplying information on business enterprises here and abroad, marketing and survey services, Municipal Service Department, the monthly publication of *International Markets* and *Dun's Statistical Review*, and other fact-finding and reporting activities.

M O D E R N I N D U S T R Y

**This is ALAN WOOD STEEL—**



**Steelmasters  
for 130 years**

IRON PRODUCTS  
"Swede" Pig Iron

STEEL PRODUCTS  
Plates (sheared)  
A. W. Dynalloy  
(high strength steel)  
Hot Rolled Sheets  
Hot Rolled Strip  
Cold Rolled Sheets  
Cold Rolled Strip

ROLLED STEEL FLOOR  
PLATE  
A. W. Algrip abrasive  
A. W. Super-Diamond  
pattern

A. W. CUT NAILS  
Standard & Hardened

MINE PRODUCTS  
Iron Ore Concentrates  
Iron Powder  
Crushed Stone  
Grit  
Sand & Engine Sand

COKE  
Foundry, Industrial &  
Metallurgical

COAL CHEMICALS  
Ammonium Sulphate  
Benzol  
Toluol  
Xylol  
Naphthalene  
Sodium Phenolate  
Tar Bases (Pyridene)  
Solvent Naphtha  
Crude Still Residue

PENCO METAL PRODUCTS  
DIVISION  
Steel Cabinets,  
Lockers & Shelving

## "Lots of trouble to get good product"

Said by the founder of Alan Wood Steel—James Wood—over a hundred years ago, that statement set a manufacturing standard for five generations of steelmaking Woods. Today, as then, the "... trouble to get good product" includes modern equipment, facilities, research, development and determination. Accepting that "trouble" has led to a nearly \$50,000,000 expansion expenditure in ten years that has helped us supplement our greatest selling advantages—"good products" and individualized attention to orders by a compact, fully integrated, flexible steel mill.

For detailed information on any Alan Wood product, write Marketing Division—Department AW-45.

## ALAN WOOD STEEL COMPANY

CONSHOHOCKEN, PA.

PHILADELPHIA, PA.

IVY ROCK, PA.

SWEDELAND, PA.

DOVER, N.J.

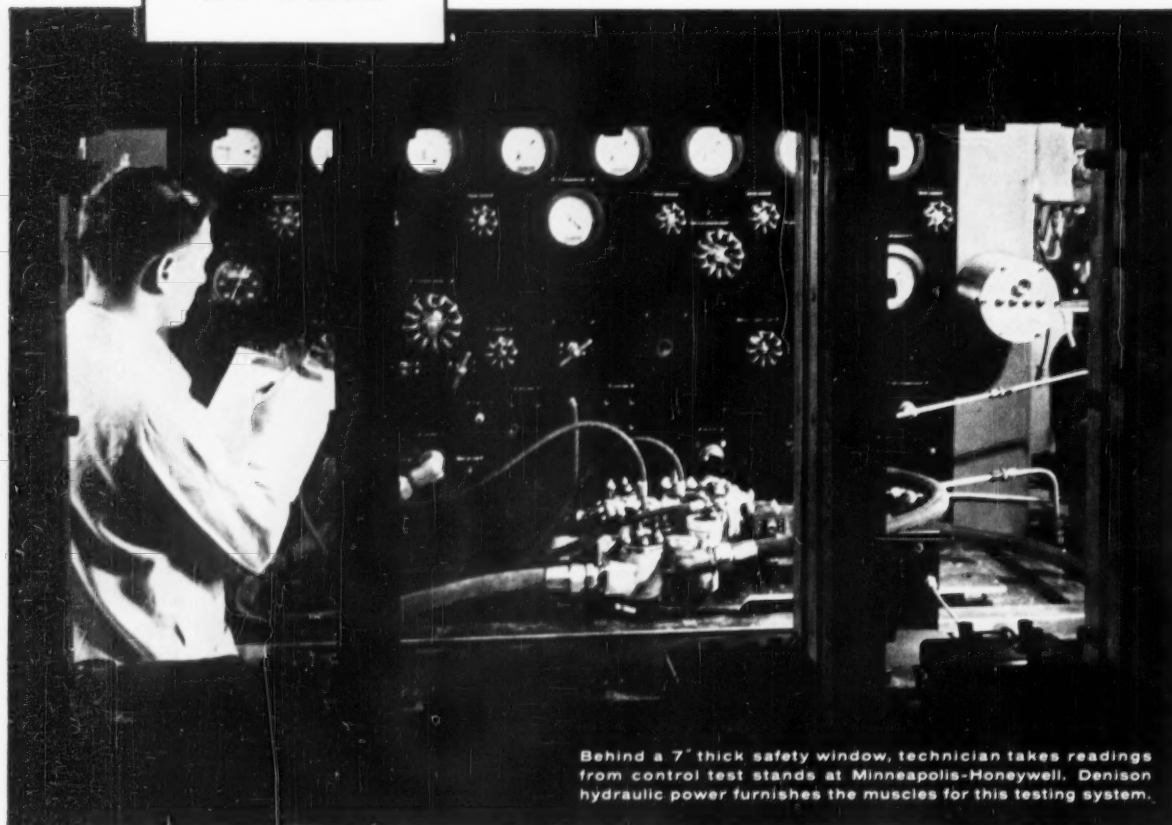
OXFORD, N.J.

DISTRICT OFFICES AND

REPRESENTATIVES: Philadelphia—  
New York—Los Angeles—Atlanta—Boston—  
Buffalo—Cincinnati—Cleveland—Detroit—  
Houston—Pittsburgh—Richmond—  
St. Paul—San Francisco—Seattle.  
Montreal and Toronto, Canada:  
A. C. Leslie & Co., Limited.



## HYDRAULICS AT WORK



Behind a 7" thick safety window, technician takes readings from control test stands at Minneapolis-Honeywell. Denison hydraulic power furnishes the muscles for this testing system.

# Muscles for "Ghost" Engines

How Minneapolis-Honeywell solved a costly engine controls test problem with Denison Hydraulic Power

A producer of jet engine controls who wants to prove his design ideas has two alternatives—build a completely instrumented engine test cell, or have the engine manufacturer perform the tests. Both methods are costly and time-consuming.

Is there another solution?

The Aeronautical Division of Minneapolis-Honeywell found one. They built a special laboratory where engine control personnel run late model jet engines nearly every week. But the engines don't make a sound and, in all probability, are hundreds of miles away. It's all done with electronics and hydraulics.

Using a complex electronic system, performance data and other engine characteristics received from the engine manufacturer are reproduced as electrical signals. These signals simulate engine and control operation. But even a "ghost" engine must have fuel, so Minneapolis-Honeywell relies on Denison hydraulic pumps and motors to deliver this muscle power.

The advantages? Economy, for one, since the laboratory costs less than a single engine test cell. More important is the flexibility of the hydraulic equipment, which adapts itself readily to changes in engine and control design and to variations in speed. More reliable controls result, too, since actual operating conditions can be studied.

It's just another example of Denison hydraulics at work for greater efficiency and economy in production. Let a Denison hydraulic specialist point the way to similar savings for your company. Write Denison Engineering Division, American Brake Shoe Co., 1162 Dublin Road, Columbus 16, Ohio.

HYDRAULIC PRESSES • PUMPS • MOTORS • CONTROLS





## HEARD IN WASHINGTON

*Paul Wooton has been a member of the press galleries of Congress since 1914. His column this month features a report of top Washington thought on Federal Reserve Board policy.*

THE impact of tight credit is so uneven that ways must be found, officials feel, to preserve the good features in monetary restrictions and eliminate the bad. Home builders and small businesses have suffered because of higher interest rates. The Federal Reserve is not being criticized in official circles, but it is recognized that means must be found to minimize unintentional but deleterious side effects. Since the cabinet committee issued its progress report on small business, members of the committee have been deluged with communications pointing out difficulties that monetary policies have created in some quarters. It is admitted that, if conditions should require an extended continuation of tight credit, big business would benefit and small business suffer.

While leaders in the Administration disagreed with earlier increases in the discount rate, the preponderant opinion now is that the Federal Reserve acted wisely. None disagrees that a general control, such as the rate increase, is better than specific controls, such as requiring a down payment of one-third on automobiles. The flexible character of Reserve Board action was demonstrated in 1954. It carries assurance that the board would be quick to reverse itself if the situation warranted. The sixth increase took courage, but was indicative of the board's non-political character.

### New Sales Excuse

Chairman William McChesney Martin cites the case of the automobile dealer's response to the increase. The dealer told Martin he was glad the discount rate was

raised as previously there had been nothing to blame for poor sales. The dealer added that the auto industry had lost cash customers and not credit customers.

"The Federal Reserve", reported Martin, "is going to do everything in its power to resist both inflation and deflation. Flexibility in interest rates is important in maintaining a strong and vigorous economy. The law of supply and demand is a big factor in interest rates. In its discount rate action the Federal Reserve followed and did not lead."

"There is no objection to financing plant expansion out of savings or retained earnings, but, if you want to pave the way to a bust, just let this plant and equipment expansion go on being financed out of bank credit. The little man's greatest blessing is price stability."

### Growth with Stability

Randolph Burgess, the Under Secretary of the Treasury commented:

"The government's fiscal and monetary policies are directed so as to contribute to the health and vigor of all business. A healthy money situation and an independent Federal Reserve system are essentials in avoiding either inflation or deflation. The financial affairs of government are being conducted in a way that will stimulate a dynamic growth in the economy along with price stability."

Federal Reserve officials are also pleased that banking interests have gone on record to the effect that the economy as a whole is trying to spend more money than it has; that inflation would probably approach runaway proportions were it not

for Federal Reserve restraints.

Speculation in money is frowned upon in Washington. It is regarded as even worse than stock speculation. Instances are known where one interest borrows from a dozen banks because of the restrictions on bank loans. If the economy should get even a slight set back, such borrowers probably would be in trouble. That would tend to impair confidence. Easy money will not help anyone who cannot sell his product at a profit, say officials.

### Washington notes

While the Democrats selected two good vote-getters to head their ticket, it is going to be hard for them to beat prosperity. Some observers feel that too much emphasis has been put on the "plight" of small business. The record shows that small business has prospered along with the rest of the economy. Small business has special problems, but no specific solutions for them have been proposed thus far in the campaign. To say that not enough has been done for the farmers does not satisfy them. They know that 90 per cent of parity is not the answer to their problem. They have not heard of any other solution that impresses them. There is evidence that the ranks of labor, and particularly their wives, feel that a situation characterized by an unprecedented volume of employment should not be disturbed. Efforts to establish that the Administration is unfriendly to labor have not been too successful.

The non-political economists in government can see no evidence that the possibility of a change in

## FACTS

about "THE CHALLENGER"  
BIG JOE and IBH\*

THE CHALLENGER is a ruggedly built, electrically operated hydraulic 1000 lb. lift truck.

It is built by BIG JOE Manufacturing Co., manufacturer of a complete line of over 40 IBH\* lift trucks. Although guaranteed the finest quality materials and workmanship money can buy, it is the only battery operated lift truck priced under \$400.



### THE CHALLENGER

is an ideal IBH\* tool — In Between Handling, the short distance hydraulic manipulation of materials too heavy for manual handling yet not requiring high priced power-driven equipment.

Only BIG JOE lift trucks carry the IBH\* label—because BIG JOE originated and have continuously built the complete line of all "In Between Handling" equipment. Any one man can operate THE CHALLENGER — it is easy to push — effortless to raise, lower and spot loads.

It is ideally suited for FLEET OPERATION in large plants, and for the entire materials handling job in small plants.

A single CHALLENGER in each department pays for itself quickly by just being available when needed.

### CHECK THESE ADVANTAGES

- Complete Bearing Control Throughout
- Self-Aligning Dual Floor Brakes Actuate on Uneven Floors
- Synchronized 12-volt Heavy Duty System
- Self-Contained Charger and Tapered Current Control
- Throttle Valve Control Assures Smooth Accurate Stops

### DEMONSTRATION

The Challenger can be demonstrated in your plant without obligation. Write for BIG JOE's IBH\* Handbook which shows how to solve your In Between Handling Problems.

HYDRAULIC HANDLING FOR  
EVERY DEPARTMENT



## BIG JOE

MANUFACTURING COMPANY  
57 Ralph Hines Rd.,  
Wisconsin Dells, Wisconsin

# Synchronized Speed at Less Cost

## An Entirely New Constant Speed Motor

Meeting the trend to automation and precise manufacturing control, Allis-Chalmers introduces the *SYNDUCTION* motor.

It will run at absolutely *constant* speed regardless of fluctuations in line voltage or load. Any number of these motors will operate together at the *same* speed, and speed can be regulated. All of these characteristics are provided in the simple and compact design of standard squirrel-cage motors.

*Synduction* motors are the latest addition to Allis-Chalmers broad line of motors for industrial applications. Allis-Chalmers, General Products Division, Milwaukee 1, Wisconsin.



Synduction is an Allis-Chalmers trademark.

## In Industry After Industry

... the needs of each are served with Allis-Chalmers wide range of power generation and distribution equipment and processing machinery designed and manufactured for the particular requirements of that industry.

# ALLIS-CHALMERS



A-5159



Administration is dampening the effervescent optimism prevalent in business. Stevenson as Governor was friendly to business.



In response to wide-spread demand, a sub-committee of the Ways and Means Committee of the House of Representatives is conducting an investigation of tariff policy. One of the complaints that will be studied is that the statistics now being gathered do not reveal the effect of foreign trade on different areas. It is difficult to balance the desirable and undesirable impact of imports and exports in respective localities. Action frequently is based on the volume of complaints. The extent to which imports make possible exports is not known. The committee's attention has been called to this statement: "A sensible foreign policy may be much more than the sum of regional interests. It cannot be expected to emerge from a clash between those interests." Proper blending of regional and national factors is needed.

Economists are questioning statements to the effect that the new road program will make possible safe, trouble-free traffic. During the past 13 years the number of motor vehicles has doubled. While the 13-year program is under way the number of vehicles again may double. Prospects favor a continuation of the traffic jam. Congestion is worst in cities, but city streets, which represent one-fifth of the total highway mileage, are outside the Federal aid system.

Commerce Department officials are not worried about the level of inventories. Steel inventories were largely liquidated by the strike. The automobile industry now is in good shape with regard to stocks. Moderation seems to have held sway in most other lines. Recent pick-up is due to the effort to get pipe lines full again. With the present level of

income, business already has enough impetus to carry high activity well into 1957.

American industry is operating very close to maximum capacity. Fourth quarter figures should show the highest level of industrial output ever attained.

Economists here are debating the possibility of having full employment without price increases. Since they have had little experience with full employment, statistics are lacking; but the prevailing opinion is that price stability could be maintained only for a limited period.

Executives of business firms must not overlook, officials warn, illusory prosperity due to defense spending. It creates purchasing power which encourages plant expansion. A sharp drop in defense expenditures is an ever-present possibility. Defense orders tend to create over-confidence. This, officials argue, can be corrected only by taking losses. Unemployment follows.

The Office of Business Economics is compiling a list of new products that have come on the market in recent years. The production and merchandising of these products is adding dynamism to the economy. The \$5 billion that business is spending each year on research and development is bearing fruit.

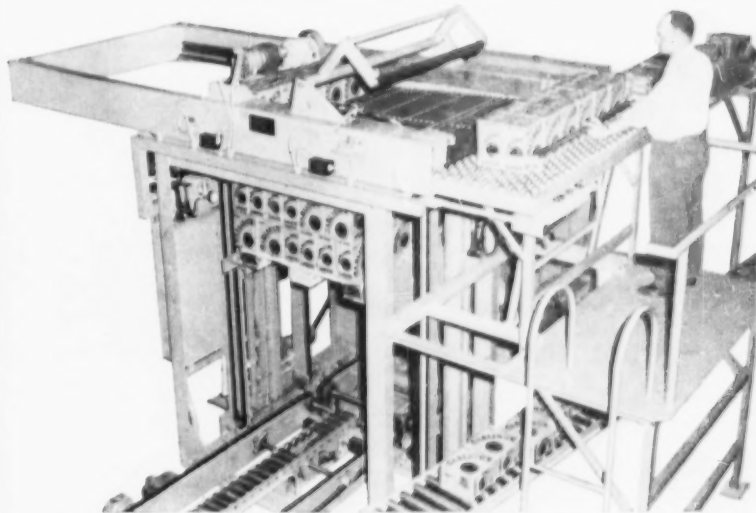


Rapid growth of industries in the atomic energy field will be a spectacular feature of the next decade, Atomic Energy Commission specialists predict. No other activity has had so little difficulty in securing funds for research. Military reasons made possible large early appropriations for research work. At no time since has research been restricted from lack of funds. The Atomic Energy Commission is helping finance research in some 700 institutions. The limiting factor is personnel, not money.

*Paul E. Ewston*

WASHINGTON, D. C.

## Can you use 50 Years Experience in Mechanized Handling?



New Mathews Semi-Automatic Pallet Loader developed for the food and beverage industries.

Just over 50 years ago, the first Mathews Conveyers were designed and built—and from that very early equipment has evolved some really spectacular continuous-flow conveying systems—indeed, some of the "show jobs" of the industry.

In these 50 years, Mathews' Engineers have developed the most complete line of gravity and power conveyers and special conveying machinery to be found anywhere—to serve nearly every class of industry in the United States and Canada.

Whatever is required—standardized conveyor units or a complete system—you'll find that Mathews has it. Three modern plants. Engineering sales offices and standardized conveyor distributors located in most principal cities.



### MATHEWS CONVEYER COMPANY

GENERAL OFFICES . . . ELLWOOD CITY, PENNSYLVANIA

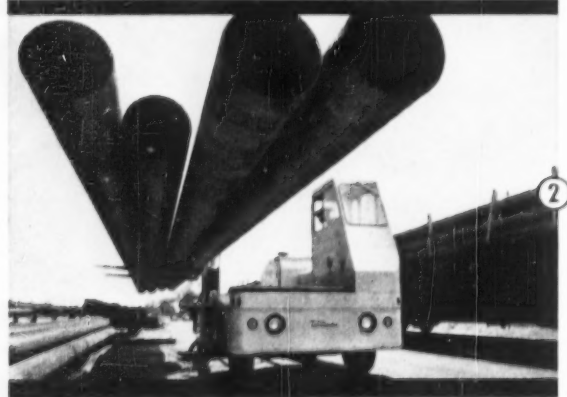
PACIFIC COAST DIV. . . MATHEWS CONVEYER COMPANY WEST COAST, SAN CARLOS, CALIFORNIA

CANADIAN DIVISION . . . MATHEWS CONVEYER COMPANY, LTD., PORT HOPE, ONTARIO

Engineering Offices or Sales Agencies in Principal American and Canadian Cities.  
Export Representative—Foreign Trade Division of New York Hanseatic Corp.

# MATHEWS

**NEW VEHICLES  
FOR  
NEW PERFORMANCE**



7354

①

**AUSTIN-WESTERN HYDRAULIC CRANE**

In addition to power steering, Vickers Oil Hydraulics provide fast, smooth and positive (a) turntable rotation, (b) boom elevation, (c) raising and lowering of load, (d) extending and retracting of boom.

②

**BAKER-RAULANG TRAVELOADER**

Vickers Hydraulics provides power steering and multiple movements that enable Traveloader to quickly reach out sideways and pick up a long load, place it on the vehicle's deck for traveling, and then stack it up to 12' high.

③

**DART UNDERGROUND TRUCK**

Vickers Hydraulics operates the reversible conveyor floor that permits fast and easy trim when loading, and then rapid dumping. Also has Vickers Hydraulic power steering for shuttle operation.

**VICKERS®**

**HYDRAULIC SYSTEMS**

**for All Types of**

**MOBILE  
EQUIPMENT**

Vickers Hydraulic Systems make vital contributions to the efficient operation of an extremely wide range of vehicles. To the inherent advantages of hydraulic control, Vickers adds the benefits of a nation-wide and full time field engineering and service organization of unequalled experience. Vickers has the complete line of hydraulic equipment necessary to take undivided system responsibility . . . to eliminate any risk of incompatibility of hydraulic components. Ask for a copy of Bulletin M5101.

**VICKERS INCORPORATED**

DIVISION OF SPERRY RAND CORPORATION

**ADMINISTRATIVE and ENGINEERING CENTER**

Department 1424 • Detroit 32, Michigan

Application Engineering Offices: • ATLANTA • CHICAGO • CIN-

CINNATI • CLEVELAND • DETROIT • HOUSTON • LOS ANGELES

AREA (El Segundo) • MINNEAPOLIS • NEW YORK AREA (Summit, N.J.)

PHILADELPHIA AREA (Media) • PITTSBURGH AREA (Mt. Lebanon)

PORTLAND, ORE. • ROCHESTER • ROCKFORD • SAN FRANCISCO

AREA (Berkeley) • SEATTLE • ST. LOUIS • TULSA • WASHINGTON

WORCESTER

IN CANADA: Vickers-Sperry of Canada, Ltd., Toronto

*Engineers and Builders of Oil*

*Hydraulic Equipment Since 1921*

## HOW JUST ARE OUR CORPORATE TAX LAWS?

*A symposium of top management  
thought on business taxation.*

AS REPORTED TO GROVER AMEN.

### CURRENT SYSTEM: THREAT TO BUSINESS

WM. J. GREDE  
*President, Grede Foundries, Inc.*



Our present system of high and discriminatory taxes on corporations and personal incomes is dangerously close to stifling the continuing expansion of

American business.

A plan exists—a practical, hard-headed, realistic plan—for the orderly reduction, over a five-year period, of both corporation and personal income taxes down to a top of 35 per cent. Developed by the National Association of Manufacturers, it is gaining wider and wider acceptance throughout the country.

This five-year plan would not increase anyone's taxes nor would it deprive the Federal Government of needed revenue. It is based on the simple proposition that, as America's economy expands, so does the amount of Federal tax revenue, but in greater proportion. The proposal is that this revenue increase be first applied to moderating the discriminatory tax rates, through five successive annual reductions.

Naturally, the plan is more detailed, but that is its thesis in a nutshell. Oddly, the only major objection to it has been the charge that it is politically unfeasible, that the public is satisfied with the rates as they are.

This is simply not so. A recent

Gallup poll showed that 53 per cent of the public favors a 35 per cent limitation on income taxes. Only a little more than a third were opposed.

I believe that an easing of the tax burden on business would result in so many new plants, new jobs, new investments, and new products that our economic growth would be assured for years to come. I hope business men will offer active support to this specific and carefully developed plan for eliminating the grossly unfair excesses of our present tax system.

### SUPPORTS TAX RISE ON BIG INDUSTRY

THOMAS M. EVANS  
*President, H. K. Porter Co., Inc.*



In 1954 ten of the very largest corporations represented nearly 30 per cent of the sales and assets of the 500 largest companies. In other words, 2 per cent accounted for nearly 30 per cent of the sales and assets of the 500. The assets of the smallest of these so-called giants is only \$13 million, but those of the largest is almost \$7 billion. It seems to me that taxation is the simple and effective device for curbing excessive concentration of economic power in industry.

An individual is taxed at a graduated rate, according to his income.



## NEW! SUB-MINIATURE 3-POLE P & B RELAY FOR MULTIPLE SWITCHING

This new P&B KM series was engineered to meet the pressing demand for miniaturization and multiplicity of action within a single relay. Application possibilities cover a wide field of diverse products, such as:

SMALL BUSINESS MACHINES  
ALARM SYSTEMS INTERCOM SYSTEMS  
AUTOMATIC TOYS REMOTE CONTROLS

Here is only one of the great family of P&B relays . . . one of more than 20,000 design variations. Custom modification of relays, too, is a P&B specialty. Thus you have one dependable source for ALL your relay needs!

KM RELAY ABOVE SHOWN ACTUAL SIZE

P&B STANDARD RELAYS ARE AVAILABLE AT MORE THAN  
500 DISTRIBUTORS IN ALL PRINCIPAL CITIES

### KM SERIES ENGINEERING DATA

CONTACTS: Max. 3PDT. 3/32" Dia. Silver 2 amps,  
115V 60 cy. resistive

VOLTAGE RANGE: Up to 48V DC nominal

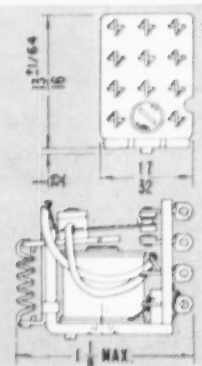
COIL RESISTANCE: Up to 6700 ohms

COIL POWER REQUIREMENT: 1 watt

TEMPERATURE RANGE: -45° C to +55° C

PULL-IN: 75% of nominal voltage

TERMINALS: Solder lugs

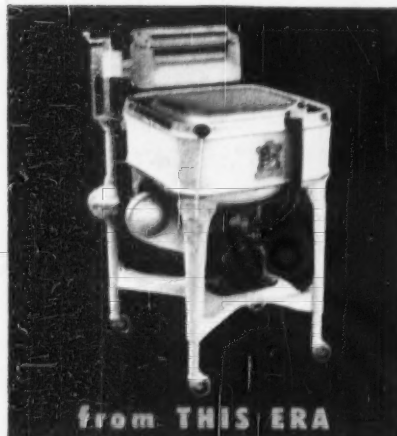


**Potter & Brumfield**  
PRINCETON, INDIANA inc.  
Subsidiary of AMERICAN MACHINE & FOUNDRY COMPANY



## THIS is a Metal Cleaning and Rust Proofing Machine

... it is part of a Complete Mahon Self-Housed Finishing System  
Installed in 1939 on the Roof of Maytag's Plant No. 1



from THIS ERA

Conventional Wringer Washer  
Produced by Maytag in 1939.

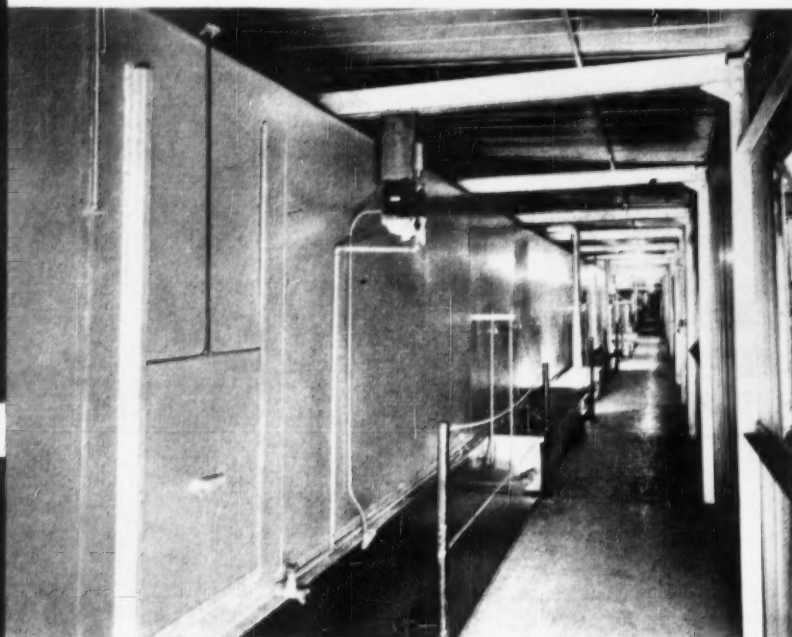


... to THIS ERA

Today's Product: The Famous Maytag Wringer Washer Produced Today Receives its Fine, Durable Finish in the Same Finishing Equipment.



Partial View of Maytag's Plant No. 1. The Mahon Self-Housed Finishing System Installed on the Roof in 1939 is clearly visible. Over a dozen other Mahon Installations—including Two More Complete Finishing Systems—are today in operation in Maytag Plants.



... over 5,000,000

**MAYTAG Conventional WRINGER WASHERS  
have PASSED THROUGH THIS FINISHING  
SYSTEM ... and It is STILL in DAILY USE!**

When you hear this statement: "Mahon equipment is engineered better and built better for more economical operation over a longer period of time", it is no idle boast. There are dozens of Mahon Finishing Systems in various industries throughout the country with performance records comparable to this one at Maytag. When you make a capital investment in equipment which so directly affects your production costs and the appearance and saleability of your product, your primary concern should be end results—quality of finish produced, operating efficiency, flexibility of equipment to handle future production loads and model changes, and yearly maintenance requirements—these are the all-important considerations. The lowest price tag doesn't tell the whole story ... so, if you want good finishing equipment—equipment that is thoroughly engineered and coordinated to do a good finishing job, remember that you can only buy Mahon experience, Mahon engineering and Mahon quality equipment from Mahon. It may cost a little more, but Mahon customers will tell you that "It's the best investment you can make". See Sweet's Plant Engineering File for information, or write for Catalog A-657.

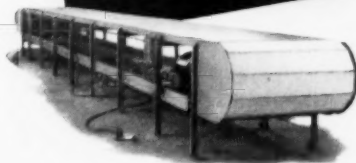
**THE R. C. MAHON COMPANY • Detroit 34, Michigan**  
SALES-ENGINEERING OFFICES in DETROIT, NEW YORK and CHICAGO

Engineers and Manufacturers of Complete Finishing Systems—including Metal Cleaning, Pickling and Rust Proofing Equipment, Hydro-Filter Spray Booths, Dip and Flow Coaters, Filtered Air Supply Systems, Drying and Baking Ovens, Cooling Tunnels, Heat Treating and Quenching Equipment for Aluminum and Magnesium, and other Units of Special Production Equipment.

# MAHON

*Modernizing  
Conveyor Lines?*

**CHECK Weld-Bilt  
STEEL-BELT  
CONVEYORS**



Custom-engineered to your exacting needs, Weld-Bilt "moving belts of interlocking steel—or stainless steel" offer profitable advantages. Positive tracking, they cannot weave, buckle, stretch or creep. Friction-free, they run on ball bearing rollers, from positive slip-proof motor drive. And, best of all, they offer *unlimited life*.

Call a Weld-Bilt engineer to help you plan new conveyor lines—or other modern materials handling equipment. Just drop a note.

**WEST BEND EQUIPMENT CORP.**  
MATERIALS HANDLING ENGINEERS

303 WATER STREET, WEST BEND, WISCONSIN

**Gemar Associates**

CONSULTING

**MATERIALS HANDLING  
ENGINEERS**

over 20 years experience  
Greenwich, Connecticut

*Glickman Corporation*  
INVESTMENTS

565 Fifth Avenue, New York 17, N.Y. Plaza 8-0100

Coming next month in

**DUN'S REVIEW**  
and Modern Industry

**29 WAYS TO  
SAVE ON STORAGE**

Trimming storage costs to a minimum but adequate level is not a one-man job. In this discussion of the problems and some of their solutions by the Industrial Editor the questions of what can be done and who can do it are answered in pictures and examples augmented by a checklist.

Why shouldn't a corporation have this same principle applied to it, and for the same reasons? It seems logical that effective control of corporate power can best be achieved through graduated corporation taxes which will remove the incentive for giant corporations to grow further, and will impose a practical limit on the size a company will become.

If a large corporation desires to, it could easily avoid the high rates of upper bracket taxes, and stockholders would not be penalized, by use of the spin-off provisions in the present tax laws. The spin-off allows corporations to divest assets of a division without involving stockholders in tax difficulties or hurting the stockholder in any other way. The spin-off provisions would give men in large corporations the opportunity to head up their own companies, rather than merely head divisions.

**HIGHER TAXES:  
HIGHER PRICES**

JOSEPH L. BLOCK  
*President, Inland Steel Company*



I surely would not favor the establishment of a graduated corporation income tax patterned after the present personal income tax with a scale running into millions of dollars.

Certainly, this is not the proper method of curbing monopoly. Monopoly must be curbed, but this should be done by strict enforcement of the anti-trust laws.

A graduated corporate income tax would have only harmful effects. It would reward inefficiency, penalize successful management and stunt corporate growth. All this would be contrary to the public interest by causing higher prices and reduced output. Surely such a tax would be ill-advised.

I favor some tax advantage for small business as a means of encouraging the establishment of new enterprises and aiding in the growth and development of those which do exist. These small enterprises are, in my opinion, essential for the

**how to  
REDUCE LOADING COSTS...**



**ACROSS  
THE  
BOARD!**

The day you drop a Magliner magnesium dock board into place on your loading dock you've started saving money *right across the board!* Loading bottlenecks in shipping-receiving quickly disappear, and dock traffic starts rolling rapidly and efficiently.

With Magliner dock boards you get more output from your loading equipment. Power trucks, floor trucks and other equipment do a full day's work because Magliners are custom-engineered to meet the exact requirements of your dock . . . your equipment . . . *plus* any special conditions which may affect your loading operation.

Magliner dock boards protect your loads and equipment against costly damage . . . insure greater safety for your men. Made of light, strong magnesium, they're easily handled by one man! No heavy lifting or risk of injury.

You owe it to yourself to find out how you can reduce costs *across the board*—*across a Magliner dock board!* Write for the facts today.



**Magliner**  
MAGNESIUM  
**DOCK BOARDS**

WRITE FOR BULLETIN DB-204. SEND YOUR  
NAME AND ADDRESS TO MAGLINE, INC., P.O.  
BOX 110, PINCONNING, MICHIGAN.

*In Canada, Magline of Canada, Limited, Renfrew, Ontario.*

**"You mean we could  
have avoided this  
trouble if we had used  
Skellyfuel?"**



**"How a \$5,000 shutdown  
convinced me that all  
LP-Gases are not alike!"**

"Frankly we had been using another well-known brand of LP-Gas. Since all LP fuels have to meet NGAA specifications, we thought one was as good as another.

"But we found out otherwise the day our LP-Gas System became inoperative. We figured the shutdown would cost us \$5,000 a day, and we needed expert help in a hurry.

"Even though we were not using Skellyfuel, we knew their technical experience and 'know-how' to be the best in the business. So we put in a rush call to Skelly Oil Company. One of their technical men arrived within hours.

"It didn't take him long to discover that our trouble was caused by moisture in the fuel tanks which froze and ruptured a valve. So we cleaned out the tanks and refilled them with Skellyfuel. We haven't had any trouble since. Knowing what I do now, I don't see how any plant can take chances on anything less than Skellyfuel."

Skellyfuel is moisture-free and gives cleaner heat and closer temperature control. And no wonder. Skellyfuel has pioneered in industrial LP-Gas research and quality control for over 25 years.

Phone today or write for the free 20-page Skellyfuel booklet. Then you, too, can learn the story of Skellyfuel's high quality, dependable service and superior installations!



# Skellyfuel

SKELLY OIL COMPANY  
Industrial Division

605 West 47th Street • Kansas City 41, Missouri

preservation of our free competitive economy. Small business now receives a tax advantage through the exemption of \$25,000 in surtax which in effect provides for a graduation of tax at lower levels. I would support an increase in this exemption to a somewhat higher figure, such as \$50,000.

## SMALL BUSINESS RATES: MAJOR ISSUE

MALCOLM BANES  
*President, National Marketing  
Consultants*



It is my firm belief that corporate tax rates should be sharply reduced to favor the small business man—even if this should mean increased taxes for big business.

I say this, not just because I am a small business man myself, but because of the current runaway trend toward bigness in just about everything in our economic life—big business, big labor, big taxes. To reverse this trend would create a healthy boost for true free enterprise in America.

CASPER H. CITRON  
*Vice-President, Shampain, Citron,  
Clark, Inc.*



As a business man and former regional director of the U.S. Small Business Administration, I have had ample opportunity to see that the present tax rate on corporate income of 30 per cent up to \$25,000 and 52 per cent over \$25,000 is not equitable to small business. For companies earning under \$25,000 a tax rate of almost one-third of their income not only is too high, but in many cases greatly hinders or stifles operations.

I would recommend sharply cutting the tax to about 15 per cent on corporate income up to \$25,000, remembering that larger companies, if they need funds, can secure equity capital and bank loans which, in most cases, small businesses cannot.

# OUTLASTS

*Ordinary Brushes*

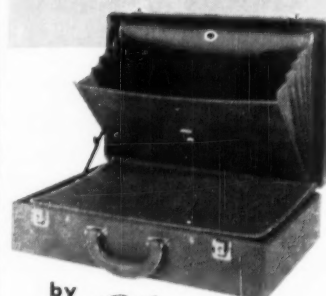
## 3 to 1



27 Styles and sizes to choose from—fully guaranteed. Write today.

**MILWAUKEE DUSTLESS BRUSH CO.**  
530 N. 22nd St., Milwaukee 3, Wis.

## ATTACHÉ CASE



by *Olympic*  
with  
**DETACHABLE PORTFOLIO**

... ideal for corporation executives and sales personnel. Combined overnight and business case with 5 compartments in detachable portfolio. Partition conceals clothing compartment and provides writing surface. Finished in handsome, virtually scuff-proof TOLEX. Saddle russet or brown.

### OLYMPIC LUGGAGE CORPORATION

Kane, Penna.  
Gentlemen:  
Please send latest catalog and prices on the new Attaché Case.

Name.....  
Title.....  
Company.....  
Address.....  
City.....State.....

**MANUFACTURERS OF A COMPLETE LINE  
OF LADIES' AND MEN'S FINE LUGGAGE**





**THEY  
WATCHED IT STALL  
AND HOLD**

*... and visualized new uses for torque motors*



The torque motor shown in operation in the Howell Motormobile does just that—stall, and hold! In other words it continues to exert maximum torque as long as it is energized. The one in the Motormobile is hooked up so that the time intervals between releases can be varied by turning a knob. A dial shows the pounds-feet of torque applied.

Motormobile visitors check the time intervals, note that the motor doesn't overheat—even though stalled across the line—and begin to think of how torque motors might be applied to their products. Designers of such devices as elevator doors and reel- ing devices usually know about the Howell torque

motor, but a surprising number of entirely new uses for it are developing as a result of this one Motormobile display.

Design engineers are not the only interested ones. From operating personnel to the top executives of the companies we visit, one and all express their appreciation of the many ideas in action presented in this industrial exhibit.

Should the Motormobile not be scheduled for appearance at your company in '56, please write us for details on torque motors . . . or on any other type of industrial motor, fractional through 300 horsepower. Address to Howell Electric Motors Company, Howell, Michigan.

**HOWELL** motors

*... precision built for industry since 1915*

# Pioneering the **MODERN PACE** in transportation

**MISSOURI  
PACIFIC  
LINES**

As America rolls toward a greater tomorrow, Mo-Pac is busy building to meet tomorrow's transportation challenge, helping strengthen our nation's life line—its shining rails of steel.

Here is Mo-Pac's brand of progress! Our entire freight and passenger fleets are *dieselized* and *radio-equipped*. Modern *electronic traffic control* systems speed passengers and freight along our 10,000 miles . . . and we're especially proud of our own improved version of *train-truck* service. There's more, much more—such as *walkie-talkie radio* in M-P freight yards and a constant program of reducing curves and grades on the main line.

Mo-Pac works for transportation's future!



**Route of the EAGLES**

## HIGHLIGHTS & sidelights

comment by

*Annesta R. Gardner*

### *Making convenience pay off*

There's money in convenience—for producers of industrial as well as consumer products. Whether it's prepared pancake batter, pelletized alloying elements, or pre-weighed laboratory reagents, customers will pay a premium to obtain materials and products in easy-to-use form.

Impregnated cleaning and polishing cloths, for instance, have blossomed from a small specialty into a big business almost overnight just because they are so convenient to use. One producer alone, Viking Sloane, has doubled the size of its operations in the past two years, introduced half a dozen new consumer items, and is now moving into the industrial field. It has also formed a subsidiary, Pixys, Inc., to make and market non-woven, felt-like impregnated cloths, lower in cost and offering new qualities.

Convenience is a many faceted source of product ideas. As Charles G. Mortimer, president of General Foods, told a National Industrial Conference Board Meeting, it is possible to offer convenience of form, time, place, quantity, packag-

ing, readiness for use, operation, combination, selection and comparison.

To this general list might be added such special qualities as convenience of cleaning and safeguarding. Pelletized and pre-packaged chemicals, for example, are in demand because they minimize contamination and dust problems and reduce safety hazards.

*Can making it easy make it easier for your product to sell?*

### *Do you spend enough?*

The average American production worker has \$12,500 worth of equipment at his command, the Council for Technological Advancement points out. That's a sizable investment, and a responsibility of which the employee can and should be proud.

In some industries—among them, the fast-growing, profitable petroleum, chemical, and electrical fields—the investment runs as high as \$76,000. Others, though, have less than \$5,000 worth of equipment per worker. In this group, it should be noted, are most of the industries

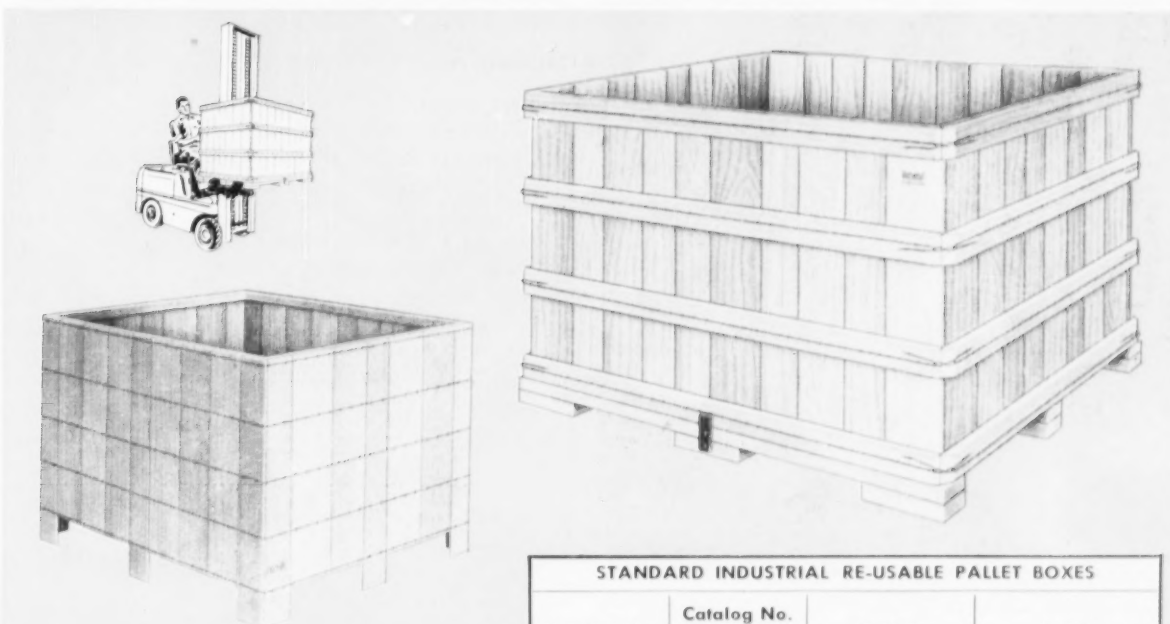


### *People-handling of the future?*

As traveling executives know, expanding air travel means expanding airports, and often a long, long hike from terminal to plane. Now, Clark Equipment Company has come up with a bright idea that offers real hope for the foot-

sore: It's this "passenger pod," designed to be handled by a Clark-Ross straddle carrier, whisking passengers from plane to terminal. Their luggage could go along, too, in a container attached to the passenger cabin.

# **NOW** manufacturers large and small can improve operations and save money with new **GENERALIFT®** Standard Industrial Pallet Boxes!



Catalog No.	Outside Dimensions	Inside Dimensions
IPB-EXP	41 x 35 x 29½	40 x 34 x 24

## **New Standard Expendable Generalift Pallet Box**

This economical one-trip shipper is sturdily constructed of resawn hardwood to handle loads up to 1500 pounds. Four-way fork entry. Tops, and blocks to permit stacking, are available.

STANDARD INDUSTRIAL RE-USABLE PALLET BOXES			
Catalog No. Regular	Catalog No. Open-Front Bin Type*	Outside Dimensions	Inside Dimensions
IR-L-24	IB-L-24	48 x 40 x 29½	45½ x 37½ x 24
IR-L-30	IB-L-30	48 x 40 x 35½	45½ x 37½ x 30
IR-S-24	IB-S-24	41 x 35 x 29½	38½ x 32½ x 24
IR-S-30	IB-S-30	41 x 35 x 35½	38½ x 32½ x 30

Note: Nesting of stacked boxes reduces listed outside height by ½".  
\*Gates available on order.

## **New Standard Re-usable Generalift Pallet Boxes**

These really rugged boxes have outside cleats and four-way entry skids. Stack solidly. Sturdily made of resawn hardwood. Handle loads of 2000 to 3000 pounds. Completely collapsible for KD return. Available regular type or open-front bin type, with or without gate.

Here's a new idea from General Box to help you save money and improve your handling, storing, and shipping operations. Four sizes of the famous Generalift re-usable wirebound pallet box and one new Generalift expendable wirebound pallet box are now available from stock at much less cost than custom-built boxes of the same quality.

### **Prompt shipment from stock**

The economies of mass production now apply to orders for carloads or lesser quantities, with 20 as a minimum. Minimum orders must be for one kind and size. Boxes are shipped KD, are easily and quickly assembled.

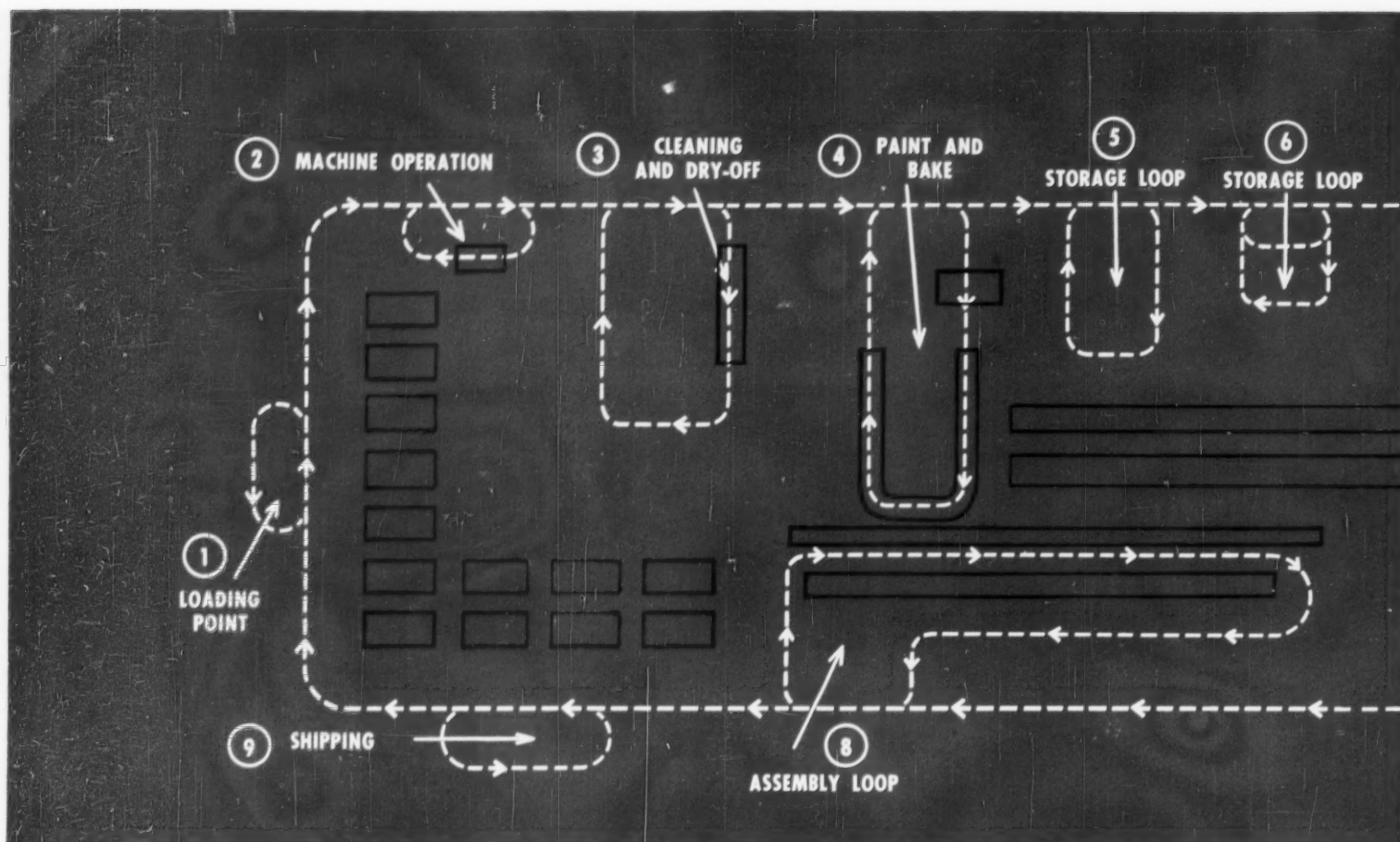
Generalift wirebound pallet boxes have long helped industry to reduce handling, storage and shipping costs. These standard boxes offer the strength, resili-

ency, and light weight of wirebound construction... are made by one of the leaders in the industry... have passed rigorous tests in General Box laboratories and in actual use... utilize maximum space in railroad cars and trucks.

Write today for complete details and prices.

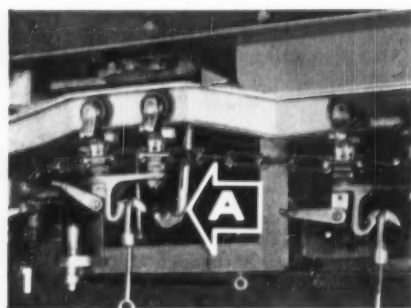




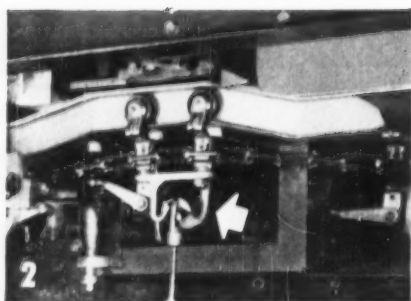


with new Trans-Free conveyor by Allied

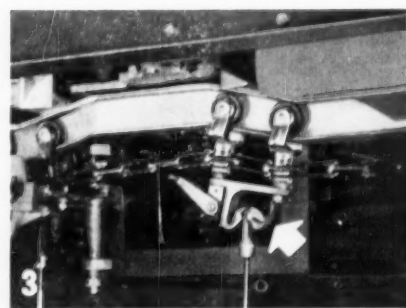
## Completely Automatic Dispatching



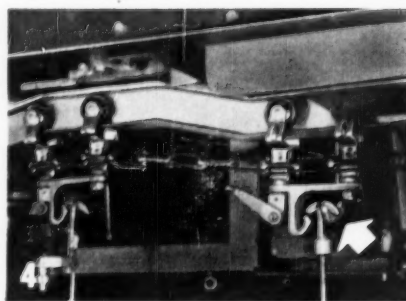
**1** Automatically dispatched for transfer from live line to free, the load bar rises on live track to free line level, mechanically triggers transfer hook A on free line swinging it forward toward interception position.



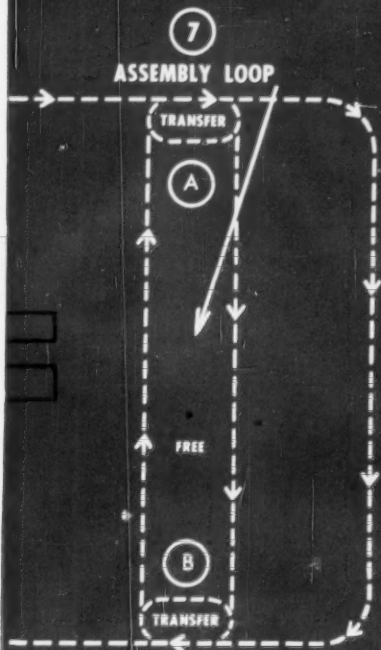
**2** Perfect synchronization assures coordination of the two lines, transfer hook here engages load hook. Transfer of load is now ready to be completed mechanically without use of air cylinders, solenoid switches, etc.



**3** As live line rail begins dip to original position, load hook and transfer hook are both firmly engaged giving positive load control throughout transfer. Incoming, outgoing loads are controlled to prevent collision.



**4** Load hook dips below level of transfer hook leaving load on the free line hook to go to intermediate operations or storage. Free line may be powered, load returned to live line at some other point, if desired.



- ① Loading Point—raw stock loaded on Trans-Free at receiving department or stores.
- ② Machining or other Fabrication Operation—may be first of several—hoist permits small parts containers to be raised or lowered from Trans-Free at will.
- ③ Cleaning and Dry-Off.
- ④ Paint and Bake—baking cycle may be varied.
- ⑤ Storage Loop—selectively stores intermixed parts automatically and recalls individual parts as required by schedule.
- ⑥ Storage Loop—same as (5) except individual parts are manually positioned for dispatching.
- ⑦ Assembly Loop—selects parts for assembly area automatically. May be first of several—may return processed parts to main line at "A" or "B" as schedule requires.
- ⑧ Assembly Loop—automatically selects parts. Returns to main line upon completion of operation. Loop size and shape may be varied.
- ⑨ Shipping Loop—selects all completed parts on main line.

## and Product Handling from loading point to shipping dock

Trans-Free is mechanical. There's nothing electrical, nothing hydraulic. No switches, no belts, no "down-hill" transfer points. So complicated maintenance problems are virtually eliminated.

Trans-Free is automatically dispatched. You can unload to, from, and at any pre-selected combination of stations. Your load timing, transfer, circulating storage and load control through transfer points—all are automatic.

Loaded carriers leaving any work station are sent automatically to the next designated one. So, you handle many different parts at once, unloading at any station desired. As carriers are emptied they return to the loading area.

Trans-Free is economical. It uses standard track and trolley. So you can integrate Trans-Free with existing facilities saving on your initial investment. With Trans-Free you have truly automatic handling, a system that gives you: lowered labor costs; integrated conversion; and—very important—completely mechanical operation, a big maintenance saving.

Let us send you the complete story on Trans-Free. Simply write to Allied Conveyors (see address below). Or, next time you are in Detroit see the unique Trans-Free conveyor system in actual operation. The phone number is TWinbrook 2-3040.



## ALLIED CONVEYORS

ALLIED STEEL AND CONVEYORS • DIVISION OF THE SPARKS-WITHINGTON CO.

17315 HEALY AVENUE • DETROIT 12, MICHIGAN • CABLE ADDRESS: ALCON

## OLD HANDS AT EXPANSION



ONE of the finest examples of company growth is the brewery of C. Schmidt & Sons, Inc., Philadelphia, and their subsidiary in Norristown, Penna., whose achievements in the development of original and improved methods have consistently pioneered new standards in the brewing industry.

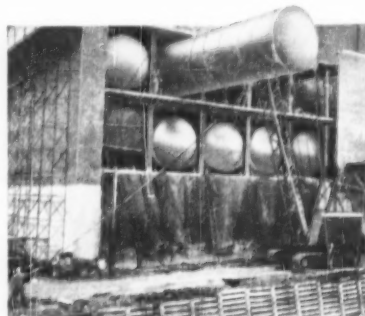
In 1933, when management embarked on a long-range series of expansion and modernization programs, annual brewing capacity was little more than 200,000 barrels.

Today, "Schmidt's of Philadelphia" can produce over two million barrels... the result of perpetual research, a multi-million dollar investment, and co-ordinated "turnkey" services by Kuljian.

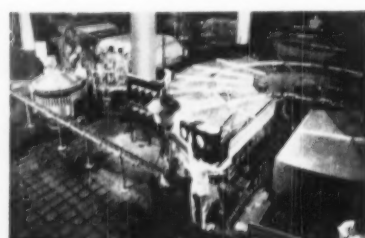
Schmidt's success demonstrates the wisdom of using single source engineering services—the Kuljian "turnkey" system of integrated planning, design, engineering, procurement, and construction supervision.

We would like to see more businesses use this simple, economical procedure whenever outside engineering services are needed... even to include initial operation of the finished project. Try it yourself, next time you're planning a building program.

No matter what your industry—or the problem involved—we serve you well in the preparation of your plans for tomorrow.



One of 30 glass-lined storage tanks undergoing delicate hoisting operation. Tank weighs 18 tons—has 1200-barrel capacity.



The Bottling Department now contains 11 complete lines in both plants—for washing, filling, and pasteurizing two million bottles and cans a day.



May we send you these booklets?  
... why a turnkey project is best for you  
... the refreshing story of a glass of beer

POWER • AVIATION • PETROLEUM • TEXTILE • INDUSTRY • PUBLIC WORKS



# The Kuljian Corporation

engineers • constructors

1200 North Broad Street • Philadelphia 21, Pa., U.S.A.

which have long been slipping down the profit scale.

Where does your industry stand? You can check up on it by getting a copy of *Trends in Equipping the American Worker*, prepared by the Council for Technological Advancement, 120 South LaSalle Street, Chicago 3, Ill. Single copies are free; additional copies 25 cents.

### It's all in how you look at it

Car prices have certainly gone up since 1939. But Ford Motor Company has found at least one way in which to-day's cars are cheaper than they were: by the pound. Cars have gotten so much bigger that the real (constant dollar) price per pound has dropped 25 per cent. Furthermore, Ford proudly notes, to-day's car costs only about 65 cents a pound, while a bicycle costs nearly twice as much.

If it proves nothing else, it certainly shows Ford's promotion staff has plenty of ingenuity. Have you weighed your product lately?

### No applause, please

Performance specifications are becoming so exacting and machinery so sensitive that testing equipment poses serious problems.

For example, P.N. Bossert of Union Switch and Signal Company, a member of ASTM's Electrical Con-

tacts Subcommittee, points out it is extremely difficult to devise a satisfactory, reproducible test for electrical contacts because, despite careful vibration isolation, a mere handclap three feet from the test unit can generate enough noise to throw the tests off. Even talking can cause trouble.

Better protection from vibration and isolation from other disturbances are the answer here. But testing to-day's precision devices is not an easy job, and it's one that deserves even more attention than it has been given.

### Another angle on changing materials

Our September issue spotlighted the changing materials picture, and its significance in product design. Another aspect of that change, R. E. Tomlinson, president of the Tomlinson No-Drip Faucet Company, reminds us, is its effect on skilled labor.

"In our industry," Tomlinson says, "polishing and plating of metals require men of considerable training. The substitute of nylon parts and other materials requiring little or no polishing or plating will, if carried on to any great extent, discourage apprentices and trainees from going into these fields. Eventually, an absolute scarcity of these artisans may develop, as it has in



### What would you call them?

Industry has a colorful and often baffling language all its own. At GM's Atlanta assembly plant, the Pontiac front blower cases and front fender plates pictured above are known as *frying pans* (left) and *pork chops* (right). In steel mills, a *gag straightener* is not a sidekick for Bob Hope, but a press operator who flattens bent or warped products. A *pulpit man* preaches no



sermons during working hours. He operates a bar mill. If you are interested in unusual job titles (and usual ones as well), you'll find thousands of them listed in the government's *Dictionary of Occupational Titles*, originally published in two volumes, and now brought up-to-date with a paper-bound supplement, obtainable from the Government Printing Office, Washington, D. C.



horse-shoeing and barrel cooper-  
It's a good point, that rates thoughtful consideration.

#### More knowledge; better service

New laboratories are sprouting everywhere.

To develop new rubber chemicals and rubber-like materials (see page 43), Du Pont has a new Elastomers Laboratory in Wilmington; and Goodyear is spending more than \$80,000 on an addition to its service and development facilities.

In Du Bois, Pa., Rockwell Manufacturing Company has opened the

"world's largest meter research laboratory." At Hatboro, Pa., Fischer and Porter has a new unit for testing flow meters and studying the handling of fluids.

U. S. Steel's American Steel and Wire Division now has a laboratory in Cleveland "exclusively devoted to fatigue testing."

Union Carbide is dedicating a "research city" in Parma, Ohio to basic studies of solid state physics.

The significance? It's proof that industry is taking to heart the demands of materials users for more and better technical information and improved product performance.



#### Well-rounded selling

The building which houses the offices and display rooms of Coro, Inc., costume jewelers, is flat-sided like hundreds of others sandwiched into the heart of Manhattan. But Coro, with the help of Designs for Business, Inc., has devised an unusual circular arrangement that provides an attractive display section and permits easy access to any location, yet does not waste space. From the central sample storage area (left), aisles radiate outward, intersecting a series of concentric passages.

These divide the area into circular sections into which offices and conference rooms are fitted. Each room is, of course, wider at the outside than the inside. But this is not objectionable in the conference rooms which form the middle ring, and is hardly noticeable by the time the outer offices are reached. Even tenants of flat sided buildings, then, can join the current trend to circular arrangement if they wish. (See also December 1955, page 57, and July 1956, page 75.)

## PULLMAX METALWORKING IDEAS

Expensive dies eliminated with standard Pullmax Tools

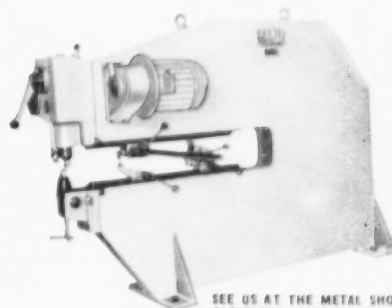


This steam table top was made  
completely on a **PULLMAX**

Only the Pullmax universal shearing and forming machine has the versatility to do all of the metalworking jobs in your Model Shop, Engineering or Maintenance Departments.

This one versatile machine does straight shearing, inside or outside circle cutting, design cutting, inside square cutting, beading, joggling, slot cutting, louver cutting, dishing, edge bending and flanging.

7 sizes of machines cut up to 11 1/2" in mild steel. Ask for a demonstration right in your plant.



SEE US AT THE METAL SHOW,  
CLEVELAND, OCTOBER 8-12,  
BOOTH 2521

**AMERICAN PULLMAX CO., INC.**

2483 N. Sheffield Ave., Chicago 14, Ill.

**MORE MONEY-SAVING METALWORKING IDEAS  
ARE YOURS IN THIS FREE BOOKLET**



Please send us the Pullmax Catalog on Money-Saving Metalworking ideas.

NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

TITLE \_\_\_\_\_

*How does an oil company  
prepare men for  
industrial technical service work?*

## Here's how Standard Oil trains its men

At the Standard Oil training center on Chicago's south side—not far from the Company's refinery and research laboratory at Whiting, Indiana—men who have demonstrated an aptitude for such work are given a 17 week course in industrial lubrication, equipment maintenance and metal working. And thus begins the training Standard Oil gives its men who are to provide customers with lubrication technical service.

Most men selected for this Sales Engineering School have college degrees in some engineering or scientific field. And in most cases these men, prior to attending the school, have had field experience in industrial technical service work to start them off with an appreciation of the problems industry meets in lubricating equipment and working with metal.

This course for lubrication specialists and engineers includes lectures and work in chemical labora-

tory, engine laboratory and machine shop. Senior Standard Oil men, recognized authorities on lubrication and metal working, are the instructors. Other Standard Oil men with teaching skills and years of field experience, direct the shop work and supervise the school's laboratories.

Class, shop and lab work are augmented by field trips to plants where "students" learn first-hand more about the lubrication problems confronting industrial customers.

The Standard Oil Sales Engineering School has graduated 15 of these classes. The many men who have completed the course are now serving customers out of Standard's 23 offices in fifteen Midwest and Rocky Mountain states. Would you like one of these men to call on you? Then telephone your nearby Standard Oil office. Or write, Standard Oil Company, 910 S. Michigan Ave., Chicago 80, Ill.

*Lectures, shop and lab work comprise training course.*



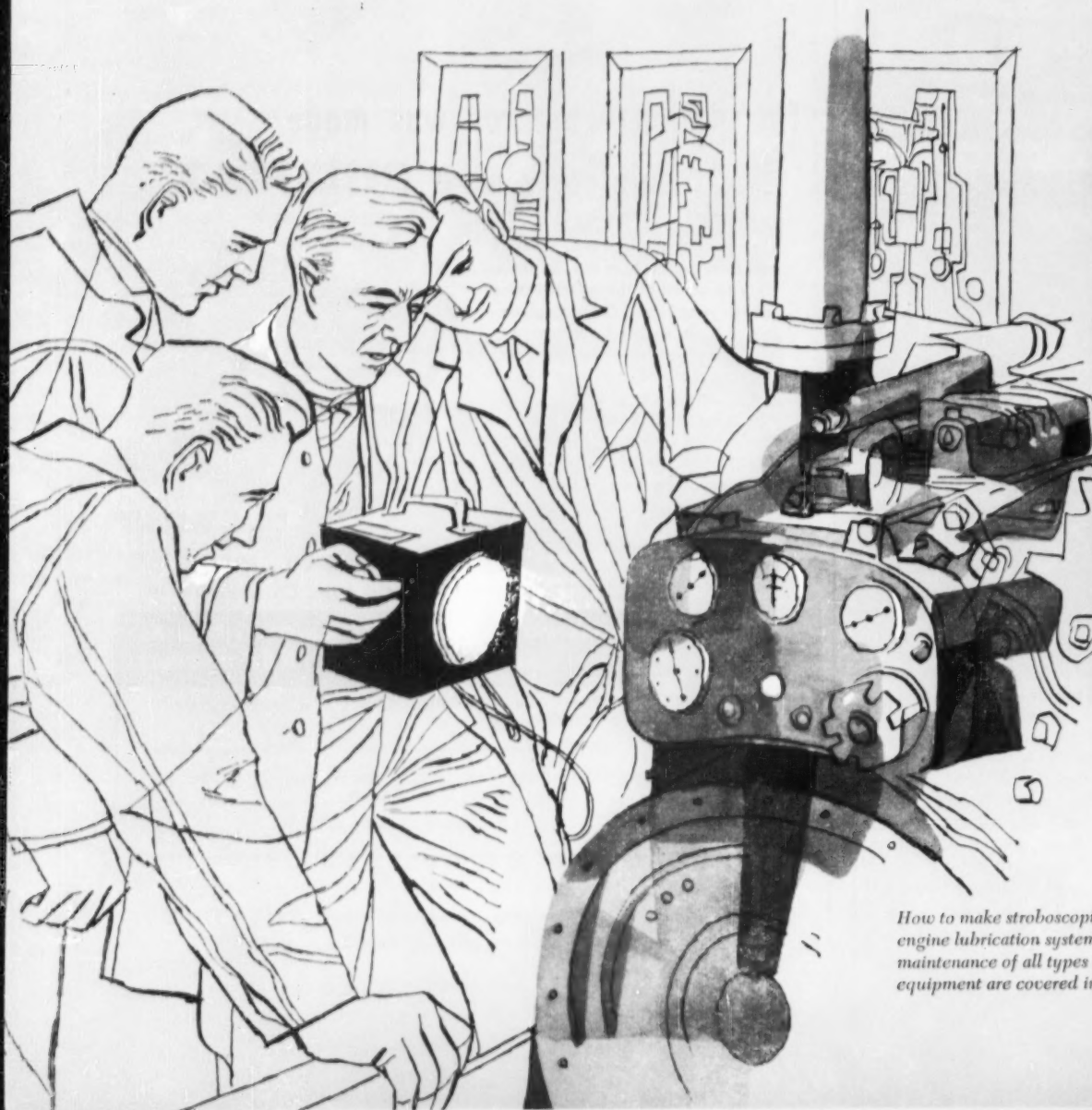
**STANDARD OIL COMPANY**  
(Indiana)



*Testing and comparing bearing lubrication methods.*



*Kinematic viscometer is used to test viscosity of lube oil. C. S. Brown (above) learns to run test. Brown, like many classmates, has science degree.*



*How to make stroboscopic examination of diesel engine lubrication system is demonstrated. Operation and maintenance of all types of industrial and automotive equipment are covered in curriculum.*





*In unit volume, consumers' purchases of services and non-durable goods advanced steadily in the first half of 1956. While purchases of durable goods dipped slightly, largely reflecting reduced automobile buying, they were still at the second highest rate in history.*

# The Trend of BUSINESS

- ▶ Consumer spending rose
- ▶ Employment at peak
- ▶ Credit up again
- ▶ Steel orders soar
- ▶ Construction high
- ▶ Outlook bright

AN INVIGORATING crispness in the Fall air seemed to impart new sparkle to the business outlook as well as the landscape in September. Roughly 42 million children were packed off to school well-clothed and shod, gratifying the apparel retailers whose August and September sales were comfortably above a year ago, according to spot reports. Consumer spending for other goods and services continued to rise. Production edged upward, manufacturers' new orders increased, and inventories were frequently reduced.

A spirit of optimism was prevalent among business men, economists, and Government officials. Henry Ford II, president of the Ford Motor Company, foresaw "exceptionally good sales and earnings for the automobile industry and its dealers in 1957." Dr. Leo Barnes, economist for Prentice-Hall, Inc. said that business men generally could look forward to their "best Fall-Winter season in history," thought that the gross national product should hit a new high rate of about \$415 billion by the year-end. This compares with the second-quarter seasonally adjusted annual rate of \$408.3 billion, which surpassed the year-ago level by about 5 per cent.

More cautiously, Raymond Rodgers, professor of banking at New York University, said the long-term outlook is bright so long as buying power keeps up with advances in prices and the expansion in productive capacity. Judging from the latest income statistics, post-war purchasing power was more than keeping pace with rising prices. The average factory worker earned close to \$80 a week in August, more than half again as much as the \$50 a week average for the years 1947-1949. For the populace at large, disposable personal income (the money consumers have left

to spend after paying their taxes) was at an annual rate of almost \$285 billion in the second quarter of 1956, an increase of 57 per cent over the 1947-1949 average. Contrastingly, consumers' prices in August averaged 17-18 per cent higher than in the years 1947-1949. For the latest price developments, turn to page 26.

But unquestionably, the inroads of inflation and higher taxes since 1939 have reduced purchasing power substantially. A married couple

with two children and an income of \$5,000 a year in 1939 now need an income of \$10,583 to maintain the same spending power, according to a recent study by the National Industrial Conference Board. In the higher income brackets, even greater increases are needed to maintain pre-war purchasing power. The family that had \$23,273 left after deductions from its \$25,000 a year income in 1939, now must make \$67,727 for the equivalent buying power.

## Weekly Business Signposts

SELECTED BUSINESS INDICATORS	LATEST WEEK*	PREVIOUS WEEK	YEAR AGO
Steel Ingot Production... Ten Thousand Tons	247	248	234
Bituminous Coal Mined... Hundred Thousand Tons	107	87	100
Automobile Production... Thousand Cars and Trucks	59	84	147
Electric Power Output... Ten Million KW Hours	115	113	108
Freight Carloadings... Thousand Cars	821	680	817
Department Store Sales... Index Number (1947-1949=100)	130	112	125
Wholesale Prices... Index Number (1947-1949=100)	92	92	90
Bank Clearings... Hundred Million Dollars	126	102	121
Money in Circulation... Hundred Million Dollars	308	309	304
Business Failures... Number of Failures	262	203	171

Steel data are for the fourth week of September; coal freight, and sales for the second week; all others for the third week.

\*Sources: Amer. Iron & Steel Inst.; Bureau of Mines; Automobile News; Edison Elec. Inst.; Assn. of Amer. Railroads; Bureau of Labor Statistics; DUN & BRADSTREET, INC.

## Expansion continued

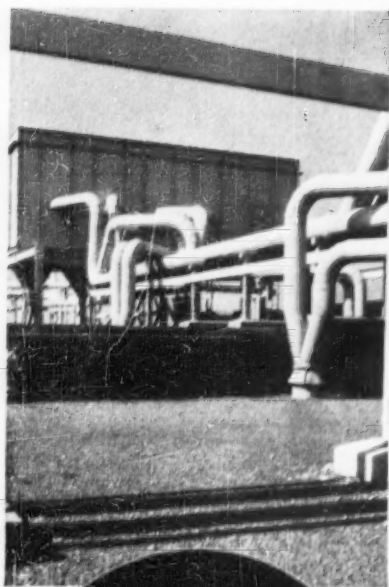
Business spending for new plant and equipment in the third quarter of 1956 surpassed \$9 billion, of which between 40-45 per cent was spent for the enlargement or modernization of manufacturing facilities. For the entire year, total expenditures for new industrial and commercial facilities are expected to be in the neighborhood of \$35 billion, a gain of almost 22 per cent compared with the 1955 level. Some of the Government economists expressed confidence that plant and equipment outlays would be sustained at a high level in the first and second quarters of 1957.

## Output rise for steel and autos

Fearing that its three-year expansion program might prove inadequate for future needs, many of the steel industry leaders urged the Government to permit more rapid depreciation write-offs to release more cash for the financing of costly additional productive capacity. While the steel expansion this year may result in an additional two or three million tons, it is



## The Trend of BUSINESS



**Wheelabrator®  
Dustube Collector  
Stops Air  
Pollution**

*and does it for less*

Here's the solution to air pollution: Wheelabrator cloth-tube type dust and fume collectors. Trapping more than 99% of contaminants in the air stream, they solve a wide range of problems, including filtration of hot and corrosive gases.

Wheelabrator has developed cloth filtration to its highest efficiency and couples with it simplicity in design for dependable, low-cost operation and maintenance. Whatever your problem, look first to Wheelabrator for lowest cost, top-efficiency dust collection.

Send today for Catalog 372C.

**WHEELABRATOR  
CORPORATION**

438 South Byrkit Street  
Mishawaka, Indiana

expected that 1957's steel requirements for the federal highway program and for the building of new bridges, pipelines, freight cars, and power plants will be greater than this. Should the 1957 model cars be greeted with buying enthusiasm, automobile production could easily rise 10 per cent or more from the 1956 volume requiring perhaps 1 million more tons of steel.

Steel manufacturers resumed production as fast as possible after the steel strike and by early September the mills were pouring steel steadily at rates close to 100 per cent of capacity. The flow of new orders for steel quickened appreciably, surpassing production, and backlogs mounted. With 12 million tons of steel lost because of the strike, steel production this year may fall slightly below last year's record level.

While automobile production dropped in August as the manufacturers wound up the 1956 model runs and tooled for the production of the 1957's, output was expected to reach a high rate in the Fall.

Dealers' stocks of new cars were estimated at about 500,000 in early September, roughly equivalent to one month's sales at the August rate. New car sales in the first eight months of 1956 were about 21 per cent smaller than in the comparable period of 1955, while production dropped 27 per cent below the year-ago level. The automobile industry can start its 1957 model year untroubled by a carryover of 1956 models, a situation markedly in contrast with that of last year.

### Record at retail

Whatever the consumer reaction to the 1957 cars, retailers generally expect the Christmas trade to surpass last year's record. With almost 67 million people employed, some 3 per cent more than a year ago, and income levels at all-time peaks, the optimism appears justified.

Fifteen of the seventeen buying organizations surveyed by the Credit Clearing House of DUN & BRADSTREET, INC., expected a rise over 1955 in Christmas sales of apparel this year. These seventeen buying

organizations serve more than 1,200 department and specialty stores.

Retail sales in the early part of September averaged 5 per cent above a year ago for the country as a whole. Regionally, the percentage changes from a year ago varied from a dip of about 2 per cent in the East to a gain of about 10 per cent in the Pacific Coast area. These estimates are based on spot reports from 66 DUN & BRADSTREET offices scattered across the United States.

Although retail volume in consumer durable goods in the first half

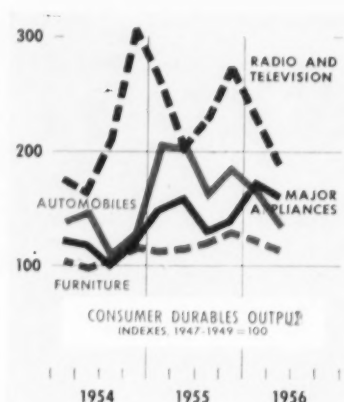
ness men, who claimed that easier credit was needed to stimulate home buying, the Federal Reserve Board appeared determined to maintain high interest rates.

Although the dollar volume of residential construction in the first eight months was 9 per cent below the 1955 level, the substantial increases in private non-residential building and public works rescued the total. Some \$28 billion worth of new construction was put in place in the January-August 1956 period, 2 per cent more than a year ago.

### Credit at peak

Credit curbs did not deter installment buying to any noticeable extent. Consumer installment debt reached a new high in July, for the fifth consecutive month. Again, automobile installment credit increased more than any other type.

Total consumer credit outstanding, including both installment and non-installment short-term debt, amounted to \$37.1 billion at the end of July, an increase of 13 per cent over a year ago.



*Reduction in retail inventories of consumer durables plus high-level sales may soon require increased output. Data from Federal Reserve Board.*

of 1956 was high, approximately at the 1955 level, consumers appeared to favor soft goods. Volume in non-durables advanced to a new record level (see chart, page 23).

The high sales volume in durable goods at retail was accompanied by a steady decline in inventories, while the manufacturers of consumer durables generally reduced their output (chart on this page).

### Housing still down

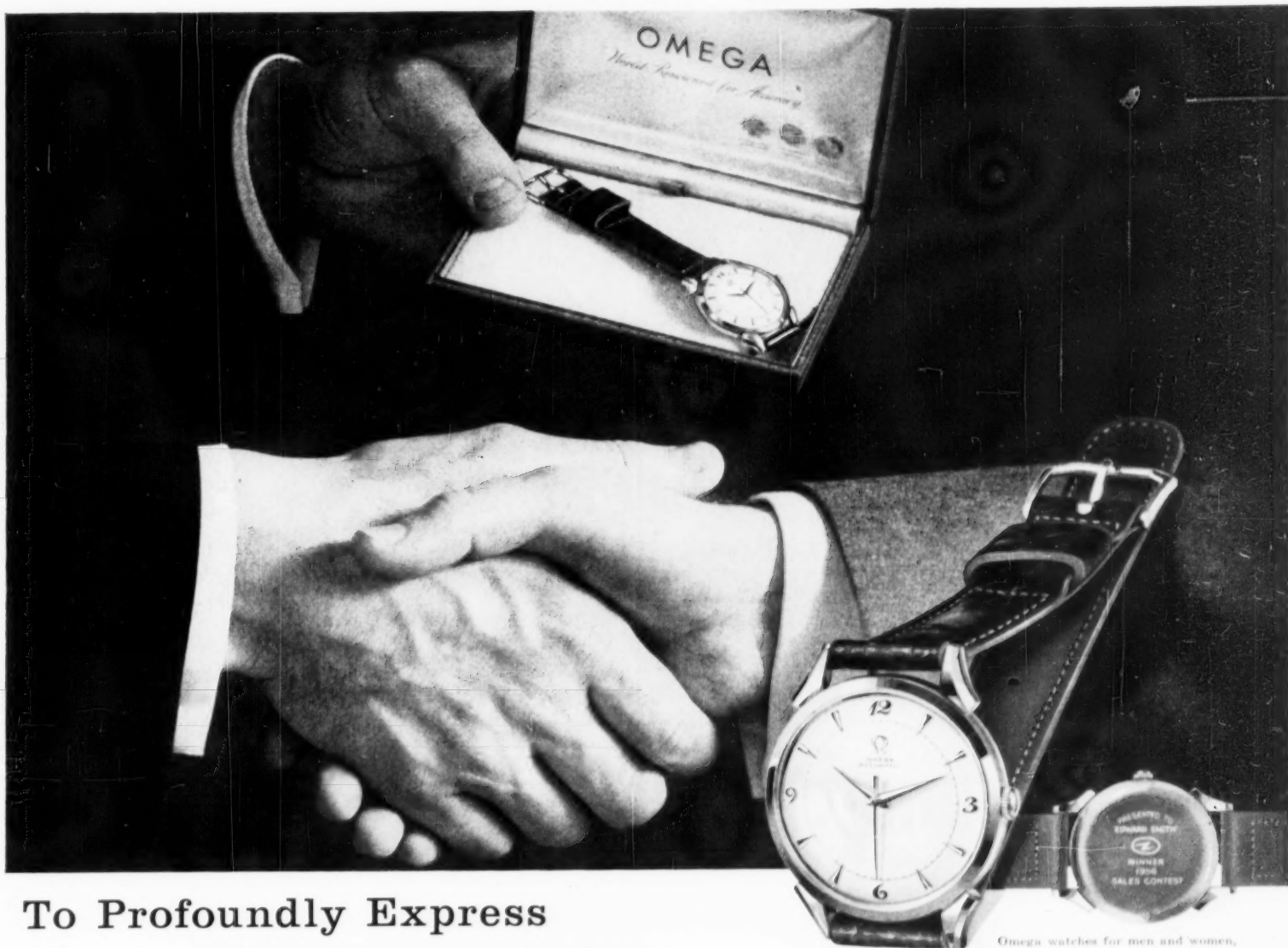
The decline in housing starts this year probably restricted volume in household durables. New dwelling units were started at the rate of something over 1 million a year in the first eight months of 1956, a volume about 20 per cent smaller than in the comparable period of 1955. Notwithstanding the protests from some builders and other busi-

### The outlook

Automobile production in the fourth quarter of 1956 is expected to pull out of the slump experienced earlier in the year. Output may come close to 700,000 units a month, approaching the peak production rates achieved last year. An upsurge in activity in the automobile centers, coupled with flourishing operations in other lines of manufacturing, in construction, and in the distributive and service industries can be expected to support the high level of employment.

Spending by individuals, business, and the Government may rise, lifting the gross output of goods and services to still another peak. Even after allowance for higher prices, the gross national product in the fourth quarter of 1956 may exceed that of 1955 by about 5 per cent.

This is a Business Conditions Staff Report, prepared by H. Lorraine Carson, Business Conditions Editor.



## To Profoundly Express Management's Appreciation...

Enlightened management keenly recognizes the importance of honoring valued employees for exceptional service and achievement. It also recognizes the advantage of utilizing incentive awards for betterment of sales performance. But frequently the question arises: "What gift will adequately express the company's profound gratitude with dignity and sincerity?"

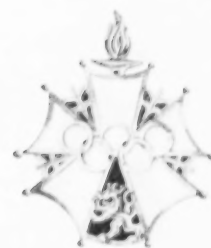
For many leading firms, the ideal solution has been a fine Omega watch. What better way to acclaim a faithful employee or a star salesman than with the watch so acclaimed itself... selected five successive times as the official watch of the Olympic Games. Moreover... in accuracy

contests at the world's leading observatories in 1955, Omega won more first-place honors than any other wristwatch.

With the presentation of an Omega, your firm pays the highest accolade possible for outstanding achievement. And the fortunate recipient realizes that his past efforts and accomplishments have been highly prized indeed.

Moreover, the presentation of an Omega is often the beginning of a new and unspoken understanding; the birth of a deep, mutual regard that will endure... as an Omega itself endures throughout the years.

Omega watches for men and women, are priced from \$71.50 to \$9,500.



Official Watch of the  
Olympic Games

# Ω OMEGA

THE WATCH THE WORLD HAS LEARNED TO TRUST

MODERN INDUSTRY

Fill out the coupon for free brochure of Omega Presentation Watches, with details on how Omega and your local authorized Omega jeweler are prepared to assist you with an Award Program.

OMEGA • 655 Madison Avenue • New York 21, N. Y.

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

OCTOBER 1956 • 25

Businesses are usually able to obtain *more cash* from COMMERCIAL CREDIT than from other sources, and to get it on a *continuing* basis, with no need for renewals.

COMMERCIAL CREDIT'S method is fast and flexible. Cash is usually available within a few days after first contact. The period of use may range from a few months to years, and the amount used from \$25,000 to millions. The one single expense is tax deductible.

*More than a billion dollars* of our funds are used annually by companies across the nation for working capital purposes alone. For complete information on how your own company can profitably use our method, contact a COMMERCIAL CREDIT CORPORATION office listed below and ask for details about the plan described in *Dun's Review & Modern Industry*.

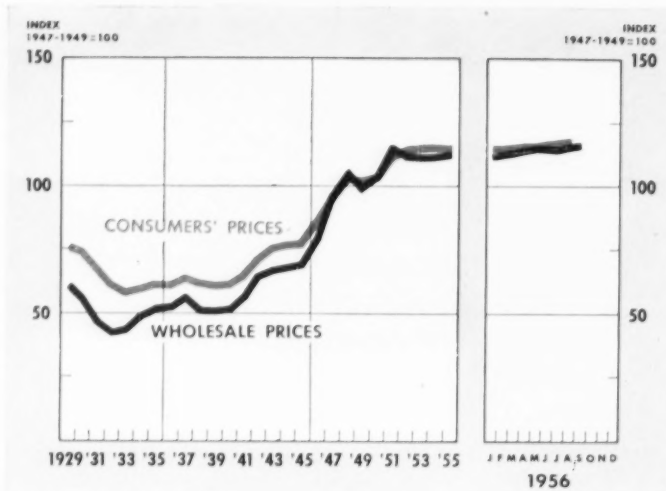
# consult Commercial Credit

200 WEST BALTIMORE STREET, Baltimore 3  
222 WEST ADAMS STREET, Chicago 6  
722 SOUTH SPRING STREET, Los Angeles 14  
100 EAST 42nd STREET, New York 17  
112 PINE STREET, San Francisco 6

A service offered through subsidiaries of  
Commercial Credit Company, capital and surplus over \$190,000,000

When  
profit  
opportunities  
call  
for  
more  
cash

## PRICES EDGING HIGHER



ALTHOUGH the upward movement in consumers' prices is hardly perceptible on the chart, the July Consumers' Price Index, at 117.0 (1947-1949=100) was 2 per cent above the January level, after having risen almost steadily each month in the first half of 1956. The July index was at an all-time high, about 2 per cent above a year ago. The index is computed by the Bureau of Labor Statistics. At the time that the July figure was released, the Bureau officials thought another rise likely for August.

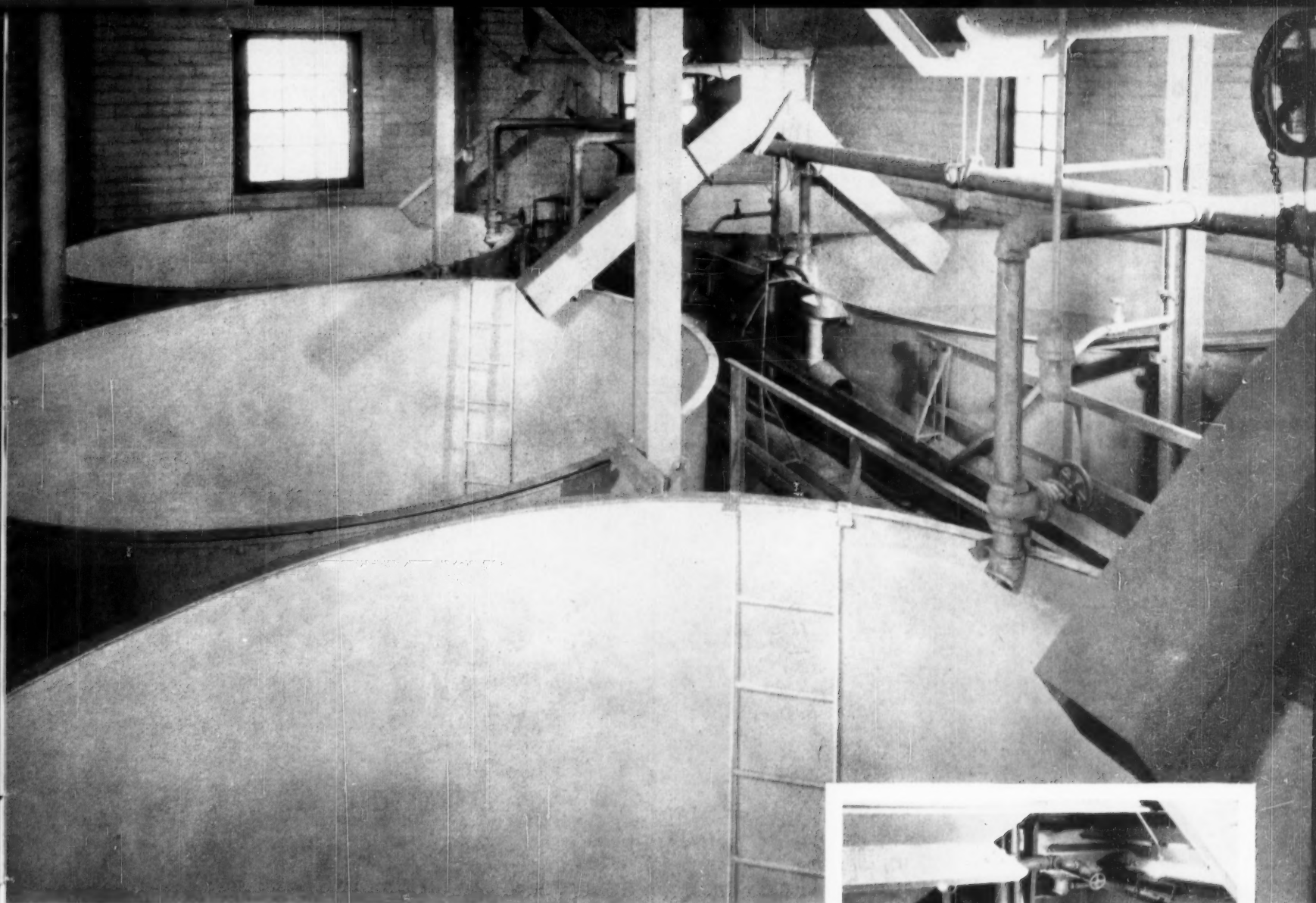
Most of the rise in the cost of living in the past few months was attributed to higher food prices. But transportation costs were up, too, mainly because of new federal taxes added to the retail prices for tires, tubes, and gasoline. Used car prices advanced, contrasting with the continued reductions in new car prices.

For 1.25 million automobile, electrical, and farm equipment workers, whose wages are adjusted to fluctuations in the index, the rise meant increases in pay ranging from 3 to 5 cents an hour. For their employers, it meant an additional increase in costs.

Attributing their action to encroaching labor and material costs, the manufacturers of a number of industrial products raised their prices in August and early September. Increased prices for TV sets and major appliances were announced by the principal manufacturers. For the distributors, who frequently offered the appliances to consumers at less than list-price, profit margins seemed likely to be whittled a bit further. The retail price index for household durables in the first half of 1956 was virtually stable; increased prices for some appliances were offset by declines of 15 per cent in the prices for vacuum cleaners, 5 per cent for refrigerators.

Apart from the rise in the prices for finished goods, the prices for many raw industrial commodities rebounded in August. Steel scrap prices advanced steadily to new record levels. From a list of thirteen basic raw industrial commodities, the prices for seven were higher in September than in July, five were steady, and one, rubber, had declined. The stability was apparent in non-ferrous metals, cotton, and cotton print cloths. Advancing at a fairly rapid pace were burlap and hides.





*After 9 years*  
**still no corrosion...no wear**

**M**ould and fungus are the archenemies of paint films and tank linings in the food industry. Abrasion and corrosive agents add to the problem. Ordinary paints often last no longer than three to four months.

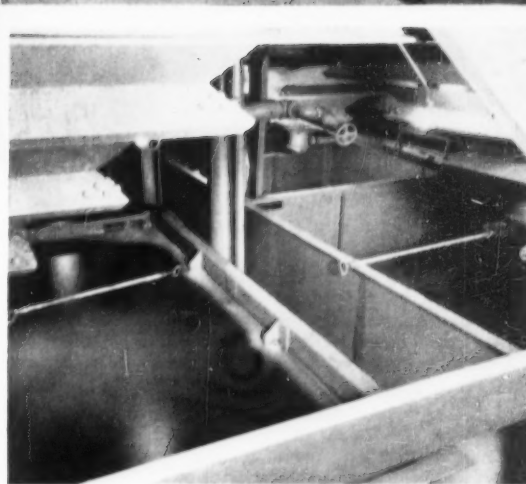
In 1947, the grain steep tanks shown above were protected with a coating based on BAKELITE Brand Vinyl Resins. Since then *not one cent* has been spent on maintenance, and there's *still* no evidence of paint deterioration.

**Nine tough years compared with four months is striking proof of the toughness and durability of coatings based on BAKELITE Resins.**

Properly formulated and applied, these coatings resist most chemicals, corrosive atmospheres, oils, and water. They protect contents from container contamination, for they dry quickly to an odorless, tasteless finish.

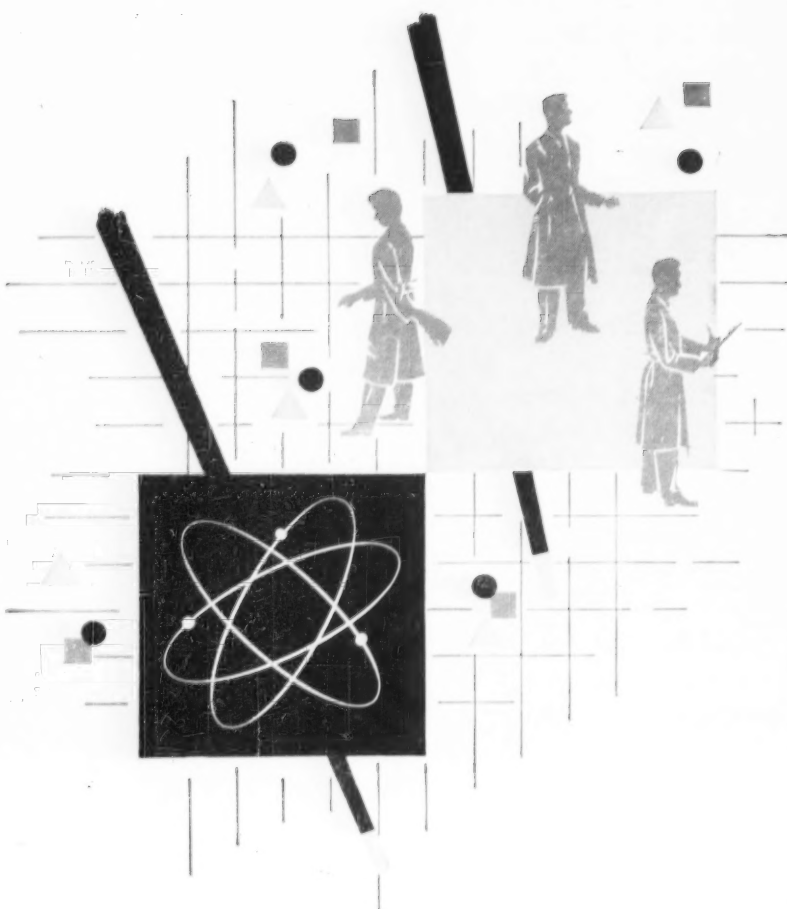
Applied to metal, concrete, or masonry, they strongly resist abrasion, impact and thermal shock, are non-flammable, and may be scrubbed repeatedly without losing color or texture. Their wide range of colors includes flat, semi-luster, and glossy finishes.

For a copy of our booklet "BAKELITE Resin Coatings for General Industry," write Dept. TU-42.



These tanks were saved from the scrap pile in 1944. Coatings manufactured by **Bisonite Company**, Buffalo, N. Y. stopped deterioration completely.





## In Nucleonics, too, Borg-Warner Applies Its Special Skills and Experience

The field of atomic power presents unusual challenge and opportunity. In this fast-growing industry, as in many others, Borg-Warner is increasingly active. Applying its traditional "design it better—make it better" concept of progress, B-W engineering-production skills and experience are contributing daily to important technological advances.

B-W nuclear pump equipment, for example, has been developed, engineered and manufactured . . . or handled as a complete project . . . for every reactor in the United States. B-W radiation counting and measuring instruments, developed on the "building block" principle, provide great versatility in nuclear detection. And for remote handling of radioactive materials, B-W research has recently developed a highly refined "master-slave" manipulator that opens new fields of experimentation.

This increasing activity in the nucleonics industry is one more example of Borg-Warner's continuing program of planned diversification. If you would like additional details, your inquiry will receive prompt attention.



Almost every American benefits  
every day from the products of

# BORG-WARNER

BORG-WARNER CORPORATION, 310 SOUTH MICHIGAN AVENUE, CHICAGO 4, ILLINOIS



CUSHING PHOTOGRAPH

## Business Failures . . .

Running counter to the normal seasonal downtrend which usually occurs between May and September, business failures rose 8 per cent in August to 1,101, the highest number for the month of August since pre-war 1940. Failures this August were 24 per cent heavier than a year ago.

The rate of failure for each 10,000 enterprises listed in the Dun

& Bradstreet *Reference Book* continued to rise. At 52 for each 10,000 listed names in August, the failure rate was noticeably higher than the 42 in August last year, although it was still well below the pre-war rate of 71 in 1940.

The liabilities of August failures, more than half again as large as a year ago, rose 13 per cent above the July level to \$55 million. Both the

## WHY BUSINESSES FAIL

Classification of Causes of Business Failures,  
Year Ended June 30, 1956

Based on Opinions of Informed Creditors and Information  
in Dun & Bradstreet's Credit Reports

	SECT.	WHOL.	RET.	CONST.	COMM. SERV.	TOTAL
<b>APPARENT CAUSES</b>						
NEGLECT	3.5	4.4	5.2	4.1	3.7	4.5
Bad Habits	0.6	0.8	1.4	1.3	1.0	1.2
Poor Health	2.4	2.9	2.9	2.1	1.5	2.5
Marital Difficulties	0.3	0.4	0.5	0.5	0.6	0.5
Other	0.2	0.3	0.4	0.2	0.6	0.3
FRAUD	2.0	4.0	2.4	1.8	0.7	2.2
Misleading Name	0.0	0.2	0.1	0.1	—	0.1
False Financial Statement	0.4	0.7	0.4	0.3	0.1	0.4
Premeditated Overbuy	0.1	0.2	0.2	—	0.1	0.1
Irregular Disposal of Assets	1.4	2.7	1.4	1.2	0.3	1.4
Other	0.1	0.2	0.2	0.2	0.2	0.2
INEXPERIENCE	92.1	89.3	90.2	91.8	92.2	90.9
Inadequate Sales	51.9	47.2	48.0	29.8	45.7	45.8
Heavy Operating Expenses	7.9	5.4	4.6	14.9	7.2	7.0
Receivables Difficulties	12.7	17.7	5.1	15.1	5.2	9.3
Inventory Difficulties	7.5	12.5	10.9	1.2	1.4	8.3
Excessive Fixed Assets	11.3	2.9	7.4	5.9	14.4	8.0
Poor Location	0.5	1.1	5.8	0.2	1.7	3.2
Competitive Weakness	15.6	18.5	21.4	27.7	23.9	21.0
Other	5.3	3.8	3.1	10.1	3.5	4.6
DISASTER	2.0	2.0	1.5	0.9	1.5	1.6
Fire	0.8	0.8	0.7	0.1	0.8	0.6
Flood	0.5	0.3	0.2	0.1	0.2	0.3
Burglary	0.1	0.2	0.1	—	—	0.1
Employees' Fraud	0.1	0.1	0.1	0.1	—	0.1
Strike	0.4	0.1	0.1	0.3	—	0.2
Other	0.1	0.5	0.3	0.3	0.5	0.3
REASON UNKNOWN	0.4	0.3	0.8	1.4	1.9	0.8

While the percentages in the broad categories of apparent causes of failures (Neglect, Fraud, Inexperience, and in on) add to 100 per cent, the sum of the specific causes may exceed the total for the category because some failures are attributed to a combination of specific causes.

Industry's "Sea of Opportunity"

# debt-free INDIANA



MAIL COUPON TODAY

DIRECTOR, INDIANA DEPARTMENT OF COMMERCE  
D-333, State House  
Indianapolis, Indiana

Dear Sir:

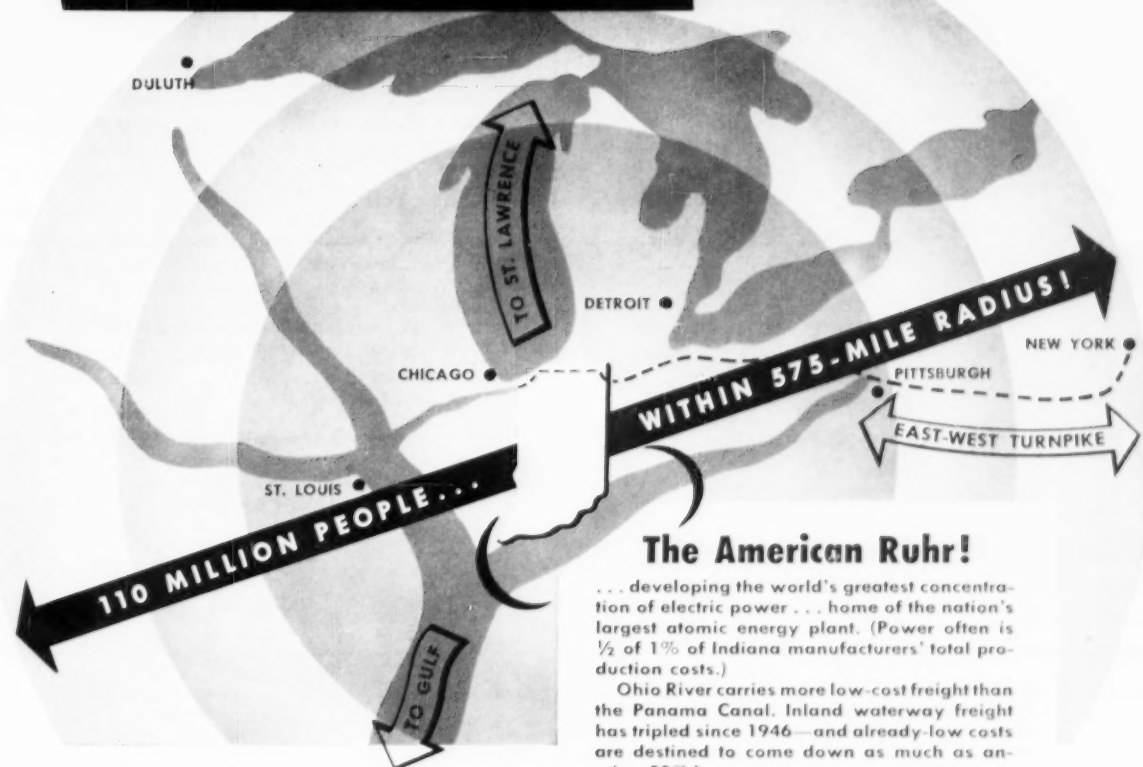
Please send me \_\_\_\_\_ copies of your new 28-page brochure, entitled  
**WHY DEBT-FREE INDIANA IS ATTRACTING MORE  
INDUSTRY THAN ANY OTHER STATE PER CAPITA.**

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_



## The American Ruhr!

... developing the world's greatest concentration of electric power ... home of the nation's largest atomic energy plant. (Power often is 1/2 of 1% of Indiana manufacturers' total production costs.)

Ohio River carries more low-cost freight than the Panama Canal. Inland waterway freight has tripled since 1946—and already-low costs are destined to come down as much as another 50%!

**NO STATE DEBT!** Our State Constitution forbids it! In fact, Indiana has millions of dollars in surplus!

**NO "NUISANCE" OR "PENALTY" TAX.** No net income, use, retail sales, corporate or manufacturer's tax! NO tax on receipts from sales in interstate or foreign commerce! Only 1/4 of 1% on gross receipts from sales for processing, re-sale, etc., not in interstate or foreign commerce; 1% on other receipts derived in Indiana except from sale to ultimate consumer (1/2 of 1%). And Indiana's unemployment tax is far lower than average!

**RAW MATERIALS.** Low-cost coal. Limestone. Natural gas. "Clay Center of the World." Petroleum. "White Clay," rich in aluminum. Gypsum. Rock asphalt. Dolomite. Fluorspar. Water, sand, gravel, wood, corn, soybeans, etc.

**23 RAILROADS, 300 MOTOR FREIGHT LINES,** 9 airlines, 200 airports, more miles of paved highway per driver and per square mile than any other state—and all paid for!

**GOOD LABOR.** Responsible, versatile, 97% native, 30% fewer government workers per capita than nationally. Envyable strike and lockout records. First in U. S. with labor-management charter.

**AND IT'S GOOD TO LIVE IN INDIANA!** Superb schools; 29 state and local colleges, universities. Fine housing, moderate rent. Low-cost state and local government. Good climate. Good hunting, fishing, conservation. Over 1000 lakes, streams; 32 famous state parks, forests, beaches. Resorts. Winter sports. Fine public swimming pools, parks, playgrounds, golf courses. And friendly, gracious people!

INDIANA DEPARTMENT OF COMMERCE • D-333, STATE HOUSE • INDIANAPOLIS, INDIANA • PHONE MELROSE 5-3571



## Sometimes just a little more money is needed



Financial emergencies often arise when least expected. And "rainy-day" savings aren't always adequate to meet them or perhaps should not be disturbed.

That's when a Beneficial loan can be helpful. The amounts are small, averaging around \$400, but they do a big job for the families they help. And by helping families, they help the whole community. The Beneficial Finance System has been providing this vital financial assistance for more than 40 years.

"... a *BENEFICIAL* loan is for a *beneficial* purpose."



### Beneficial Finance Co.

Beneficial Building, Wilmington, Del.

MORE THAN 1000 OFFICES IN THE UNITED STATES, CANADA,  
HAWAII AND ALASKA

number and the current liabilities of failures during the first eight months of 1956 hit a post-war high. The number of failures was 17 per cent higher than a year ago, while liabilities were up 29 per cent.

Failures were still markedly less numerous than in the depression-ridden Thirties, averaging close to 1,100 a month in the first eight months of this year, compared with the monthly average of more than 2,600 in difficult 1932.

Why failures should be as large as they are in 1956, at a time when the gross national product is at the unprecedented annual rate of more than \$408 billion dollars and employment and incomes are moving almost uninterruptedly from peak to new peak, is a question that is frequently asked.

Even after correction for price changes, the physical volume of the gross national product is about three times that in 1932.

#### Why They Fail

As a glance at the table on page 28 will tell, the mortality rate is highest among the inexperienced.

While more than half of the failures occur in businesses that have been in existence for five years or less, it is interesting that the proportion of "younger" failures has been declining steadily in the past

eight years. Businesses five years old or less constituted 58.6 of all failures in 1955, compared with 77.6 per cent in 1947. The toll among businesses aged ten years or more increased almost steadily to 17.4 per cent in 1955 from 9.1 per cent in 1947. There is an implication that experience is not necessarily related to age. The post-war years were not what might be called a "normal" competitive period.

Inadequate sales and competitive weakness have been the major failing points for some time, although recently, the proportion of failures with receivables and inventory difficulties has increased markedly.

While the average dollar volume of failure liabilities in the first eight months of 1956 was about three times as large as the monthly average in pre-war 1939, it must be remembered that price levels today are considerably higher than before the war.

After correction for changes in wholesale prices, the rise in liabilities over the 1939 level is reduced to less than 40 per cent.

August failures were more numerous in all size groups than in July, except in the \$25,000-\$100,000 class, which might be called medium-sized. Very small casualties, involving less than \$5,000 were more numerous than at any other time

## Lor-El's

### TECHNIQUE OF

## understanding PLASTICS

Does your purchasing department consistently check its suppliers to be assured that they are "technologically up-to-date" or . . . simply rest assured in the fact that machines and equipment are available to meet production schedules?

Watch Close . . .

The plastic is quicker than the eye. Each resin has its own limitations, its own advantages. Toughness—Pliability—Hardness—Coloring—Flexibility and then Cost. Which combination of advantages in the molding of a component part will drive that product to the fore in a competitive market?

The plastics field is young and new and so are we of Lor-El; Young, new and aware of the continued surge of new types of plastics and advances in techniques and technology—Why not try us today? A telephone call will do.

## Lor-El

COMPANY  
255 PATERSON PLANK ROAD

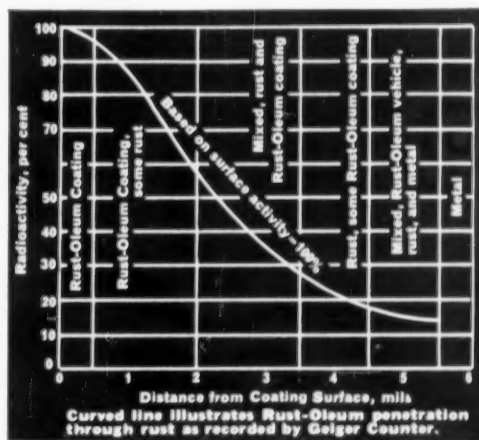
JOURNAL Square 2-4066  
JERSEY CITY 7, NEW JERSEY

# RUST-OLEUM<sup>®</sup>

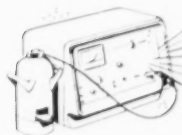
# PENETRATION

through rust to bare metal traced by Geiger Counter. To effectively stop rust—the vehicle of a protective coating, when applied over a sound, rusted surface—must penetrate through the rust down to bare metal. Rust-Oleum does exactly that!—as proved by radioactive research! Rust-Oleum's specially-processed fish oil vehicle was radio-activated and formulated into Rust-Oleum 769 Damp-Proof Red Primer—then applied to rusted test panels. Penetration through rust to bare metal by Rust-Oleum's specially-processed fish oil vehicle was then traced by Geiger Counter.

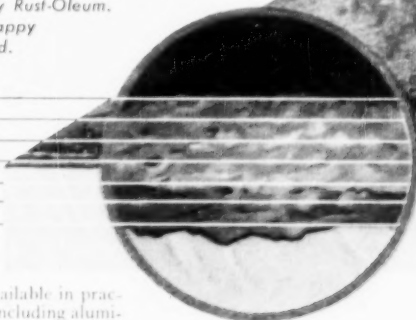
You stop rust, because Rust-Oleum's fish oil vehicle soaks deep down to bare metal and into the tiny pits where it drives out air and moisture that cause rust. You save, because this same penetration enables you to apply Rust-Oleum directly over rusted surfaces—usually eliminating costly surface preparations. Attach coupon to your letterhead for your thirty-page report entitled, "The Development of a Method To Determine The Degree of Penetration of a Rust-Oleum Fish-Oil-Based Coating Into Rust On Steel Specimens," prepared by Battelle Memorial Institute technologists.



There is only one Rust-Oleum. It is distinctive as your own fingerprint. Accept no substitute. Buy—and specify only Rust-Oleum. You'll be happy that you did.



Rust-Oleum is available in practically all colors, including aluminum and white.



Your nearby industrial distributor maintains complete Rust-Oleum stocks for your convenience.

## RUST-OLEUM<sup>®</sup>



### STOPS RUST!

See our Catalog in Sweets, or write for complete information.

ATTACH TO YOUR LETTERHEAD—MAIL TODAY

Rust-Oleum Corporation  
2471 Oakton Street  
Evanston, Illinois

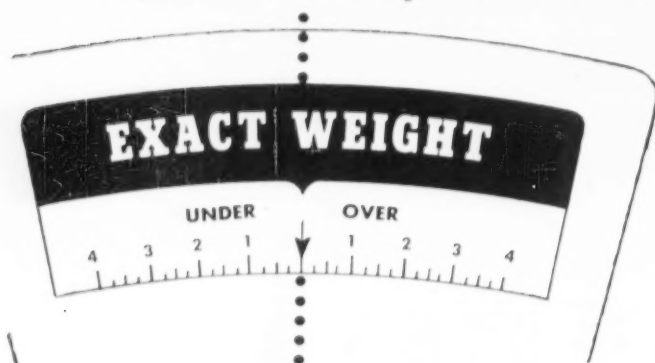


- ☐ Complete literature including color charts.
- ☐ Thirty-page report on Rust-Oleum penetration.
- ☐ Nearest source of supply.

**WHAT DOES  
"TRUCK LEASING"  
MEAN?**

Send for "Leasing Lexicon"  
and details of FULL-SERVICE leasing.  
Write National Truck Leasing System,  
Dept. DR-10

## Your profit margin needs this protection



### VISUAL ACCURACY

You can eliminate costly overweights in your business with the dependable protection of EXACT WEIGHT Scales. Over 800 models meet almost every need. Each is precision engineered to provide a high degree of visible accuracy with greater speed on operations such as packaging, checkweighing, weighfeeding, counting and weight control on production equipment. Get complete details on how EXACT WEIGHT can protect your margin of profit.

Write for free Bulletin 3305 with charts  
which show your savings through Exact Weight.

### THE EXACT WEIGHT SCALE CO.

931 W. FIFTH AVE., COLUMBUS 8, OHIO

In Canada P.O. Box 179, Station 5, Toronto 18, Ont.

There is no substitute for



in the post-war period. There was also a record number of failures among the larger businesses, involving losses of more than \$100,000. The toll among businesses with liabilities of more than \$1 million was unusually large, at eight concerns.

Three-fifths of the August failures were businesses in the first five years of operation, while one-fifth of them were started in 1955.

### Retail Toll Up

As is customary, there were more failures among retailers than in the other lines of business; retail failures constituted 51 per cent of the August total. About 44 per cent of all the firms in operation are engaged in retailing.

Retail failures in August were almost one-third again as large as a year ago, with particularly marked gains in apparel and eating and drinking places.

It is noteworthy that failures among automobile dealers in August were a shade below the year-ago level and 18 per cent fewer than in July.

Although wholesaling failures in the first eight months of this year were 7 per cent higher than in the comparable period of 1955, the August toll among wholesalers dropped 8 per cent below a year ago, the only major industry group to experience such a decline.

Failures in mining and manufacturing in the first eight months of 1956 were 10 per cent higher than a year ago, in retailing they were up 18 per cent, construction, up 30 per cent, and commercial service, up 24 per cent.

### Service Toll Soars

The sharpest rise from a year ago occurred in August failures among commercial service concerns, where the toll was up a whopping 61 per cent. Increased mortality among transportation businesses, hotels, laundries, and business and repair services accounted for the increase.

The manufacturing toll was more than twice as high as in the previous August in the food, lumber, printing and publishing, and iron and steel industries, although these marked increases were partly offset by declines in failures in five other lines of manufacturing.

Six of the nine geographic regions reported more failures in August than in July. In the West South Central states, failures were the heaviest since August 1949. In other areas the toll did not exceed that in earlier months this year. The month-to-month declines in regional failures in August occurred in the New England, West North Central and Pacific states. More failures occurred than a year ago in all areas, except New England.

### FAILURES BY DIVISIONS OF INDUSTRY

(Current liabilities in millions of dollars)	Number		Liabilities	
	8 Months 1956	8 Months 1955	1956	1955
MINING, MANUFACTURING	1609	1467	\$130.8	\$110.1
Mining—Coal, Oil, Misc.	27	40	6.4	3.3
Food and Kindred Products	143	110	8.4	11.2
Textile Products, Apparel	394	335	23.4	16.0
Lumber, Lumber Products	265	206	15.6	8.6
Paper, Printing, Publishing	89	70	6.5	2.8
Chemicals, Allied Products	41	36	11.2	3.0
Leather, Leather Products	64	59	4.8	3.3
Stone, Clay, Glass Products	24	36	3.0	1.5
Iron, Steel and Products	86	80	8.5	9.3
Machinery	195	195	21.9	28.9
Transportation Equipment	36	37	2.8	3.8
Miscellaneous	246	263	17.5	18.4
WHOLESALE TRADE	844	792	55.6	32.2
Food and Farm Products	194	198	8.7	8.7
Apparel	45	43	1.7	1.5
Dry Goods	14	32	1.0	1.0
Lumber, Bldg. Mats, Hdware	109	93	15.8	4.8
Chemicals and Drugs	32	22	1.0	0.7
Motor Vehicles, Equipment	48	47	2.8	1.1
Miscellaneous	392	357	24.7	14.4
RETAIL TRADE	4314	3670	105.6	80.4
Food and Liquor	730	716	11.6	12.0
General Merchandise	195	133	7.8	4.1
Apparel and Accessories	821	584	17.0	11.2
Furniture, Furnishings	529	523	18.7	15.5
Lumber, Bldg. Mats, Hdware	258	205	7.6	5.8
Automotive Group	477	351	16.1	7.8
Eating, Drinking Places	790	668	16.2	14.0
Drug Stores	106	93	3.4	2.0
Miscellaneous	418	397	8.3	7.8

CONSTRUCTION	1152	885	62.6	53.1
General Bldg Contractors	438	284	33.4	22.0
Building Subcontractors	660	533	26.2	20.0
Other Contractors	64	48	2.9	6.1

COMMERCIAL SERVICE	696	561	28.6	21.3
--------------------	-----	-----	------	------

TOTAL UNITED STATES	8615	7375	383.2	297.1
---------------------	------	------	-------	-------

Liabilities are rounded to the nearest million; they do not necessarily add to totals.

### THE FAILURE RECORD

DUN'S FAILURE INDEX*	Aug. 1956		July 1956		Aug. 1955		P.C. 1955 Chg.	
	1956	1955	1956	1955	1956	1955		
Unadjusted	46.5	46.4	47.4	47.4	+24			
Adjusted, seasonally	51.7	49.9	41.6	41.6	+24			
NUMBER OF FAILURES	1101	1018	888	888	+24			
NUMBER BY SIZE OF DEBT								
Under \$5,000	198	175	157	157	+36			
\$5,000-\$25,000	513	486	431	431	+19			
\$25,000-\$100,000	269	302	223	223	+21			
\$100,000 and over	119	55	77	77	+55			
NUMBER BY INDUSTRY GROUPS								
Manufacturing	195	165	158	158	+23			
Wholesale Trade	98	85	107	107	+8			
Retail Trade	567	540	430	430	+32			
Construction	146	141	134	134	+9			
Commercial Service	95	87	59	59	+61			

\*Apparent annual failures per 10,000 listed enterprises, formerly called DUN'S TRADING INDEX.

†Per cent change, August 1956 from August 1955.

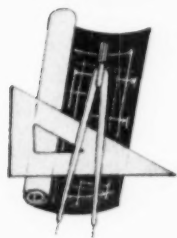
BUSINESS FAILURES include those businesses that ceased operations following assignment or bankruptcy; ceased with loss to creditors after such actions as execution, foreclosure, or attachment; voluntarily withdrew leaving unpaid obligations; were involved in court actions such as receivership, reorganization, or arrangement; or voluntarily compromised with creditors out of court.

CURRENT LIABILITIES, as used in The Failure Record, have a special meaning; they include all accounts and notes payable and all obligations, whether in secured form or not, known to be held by banks, officers, affiliated companies, supplying companies, or the Government. They do not include long-term, publicly held obligations. Offsetting assets are not taken into account.



# Craftsmen of the 20<sup>th</sup> Century

No. 20 of a series to introduce you to some of industry's outstanding plastics craftsmen



Inspired by the materials at hand, the artisans of other ages fashioned masterpieces of glass and steel, wood and silver.

Today a whole new family of versatile materials is challenging a great new group of craftsmen. Their skills and imagination are creating plastic products that are serving every industry, every home.

Two of these "20th century craftsmen" are pictured on this page.

Monsanto, a major producer of high-quality plastic materials, salutes these men who are helping to mold America's tomorrow.

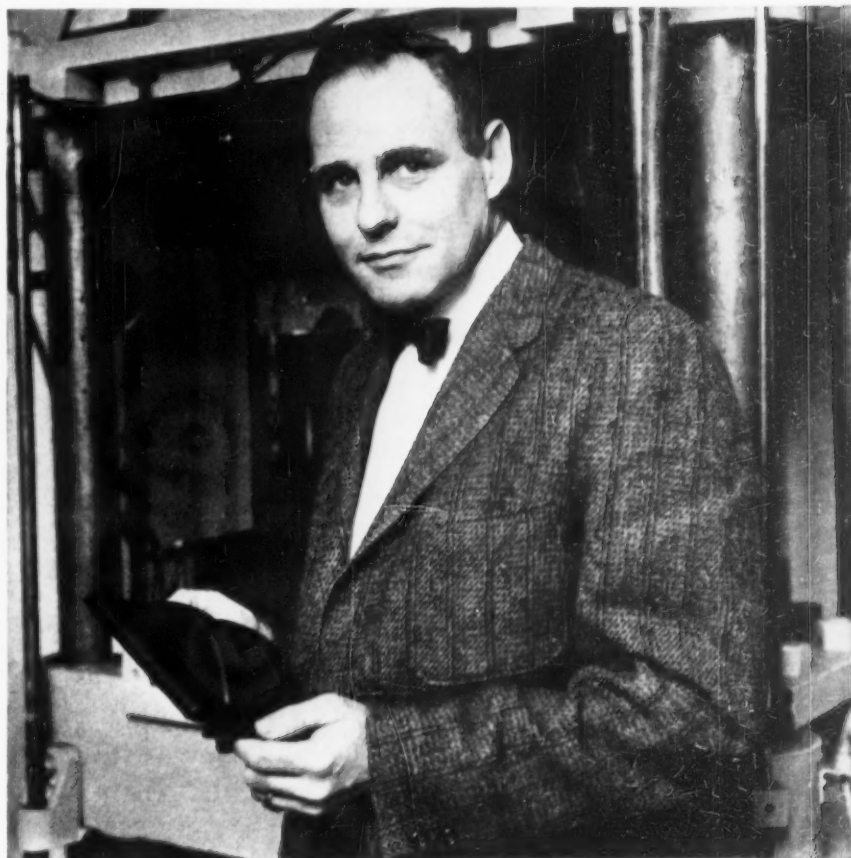
When your plans call for plastic parts or products, consult an expert custom molder



**Smith E. Powell, Michigan Panelyte Molded Plastics Inc., Dexter, Michigan**

Mr. Powell got his start in plastics at Reynolds Molded Plastics, Jackson, Mich., in 1923, and has been Superintendent of Compression Molding at Michigan Panelyte for 16 years. He has had first hand experience in tool and die making, hydraulics, materials, processing and manufacture. Under Mr. Powell's direction, 32 molding machines (ranging from 50 to 500 ton presses) produce a wide variety of plastic parts for all types of industries. Mr. Powell credits plastics with lowering manufacturing costs by the elimination of parts which can be molded in one piece and by reducing the need for machine finishing. He cites as an example, "a 9 lb. switch box with walls 1" thick. Inserts, threads and wire openings are all molded in a single cavity mold."

Good mold design, choice of the right material, and sound molding technique require teamwork between the engineering department and the molding plant according to Mr. Powell. "Nowhere is this better evidenced," he says, "than in the 25 lb. 3" thick cores we mold for oil well plugs where case hardening could be a real problem. This sort of teamwork matches the finished product—precisely—to the design of the product."



**Robert B. Battersby, Auburn Button Works, Inc., Auburn, N. Y.**

Three years before Auburn discontinued button manufacturing for 100% custom molding, engineer Bob Battersby switched from steel design to plastics. That was back in 1942. Today Mr. Battersby is Plant Manager of Auburn's Thermosetting Division, in charge of the design and production of camera parts, adding machine cases, business machine components, along with a wide variety of highly complex, close tolerance pieces for technical uses. "We completely design all molds here" states Mr. Battersby, "and make about 40% of the molds which may range in cost from \$500 to \$30,000 in our own tool shop." Auburn has been molding phenolics since their introduction half a century ago, always keeping pace with the development of new and improved plastic materials and perfecting techniques in mold design and molding methods. With "service, quality, and price" foremost, Bob has promoted the expansion of high speed plunger molding equipment to improve quality and reduce costs.

Mr. Battersby emphasizes that "firms contemplating the use of plastics should call in the custom molder in the first stages of design to take advantage of the molder's broad experience and assure the best product at the lowest cost."

MONSANTO CHEMICAL COMPANY  
PLASTICS DIVISION, SPRINGFIELD 2, MASS.



Resinox: Reg. U. S. Pat. Off.



"Sorry to bend your ear this much," he apologized.



## The Credit Manager "takes" a loss

"Sit down, John." The Treasurer seemed almost too affable, and the Credit Manager felt uneasy as he took his seat. "John—" the Treasurer looked uneasy, too. "I'm faced with a problem. Costs. We've got to cut them."

The Credit Manager wanted to look away, but he met the Treasurer's glance.

"Volume is good," the Treasurer went on, "but with costs still rising, our profit margin is slipping. So—" he laughed unconvincingly—"the Board has given me the chore of chopping costs. Nothing but essentials must remain. That," he concluded, "is where you come in."

"At least," the Credit Manager thought, "he didn't say it's where I go out!" Then he realized he hadn't been listening.

"—with Credit Insurance, we've been paying for protection where we haven't had any losses to amount to anything for years. I'll have trouble justifying this." The Treasurer looked reproachful.

"Justify Credit Insurance?" The Credit Manager spoke with an appearance of calm. "First, there was the matter of using our insured Accounts Receivable as collateral for that sizable loan last year." He smiled inwardly as the Treasurer looked away. "Then, there is the matter of our increased volume over the past four years. Next, our control of losses—" he stopped as the Treasurer held up a hand.

"John," the Treasurer sounded regretful, "you make an excellent case. Nevertheless, something's got to go. In your department, Credit Insurance is the only thing I can see that's—uh—expendable." He held up his hand again as the other seemed about to speak. "Now, if you could insure just our marginal accounts . . . But something's got to go!"

The Credit Manager looked ruefully at the man from American Credit Indemnity. "Sorry to bend your ear this much," he apologized.

The American Credit man looked thoughtful. "I'm not sorry at all," he said, "because I'm sure we can help you. Not by accepting only your marginal accounts, because that

would not be good for you or us, but simply by raising your primary loss."

"Raising our loss? Good grief, Joe, I couldn't agree to a thing like that!" The Credit Manager sounded anguished.

The American Credit man was amused at the other's reaction. "The expression isn't 'loss', John, it's 'primary loss'. Remember?" The Credit Manager nodded. "Well," the other went on, "by raising your primary loss, we can reduce your premium, and you'll still be getting protection where you need it most: on all amounts above—say, twenty-five thousand dollars."

"Hmm! I never thought I'd be glad to accept anything higher than had the word 'loss' in it, but this sounds like a good solution, Joe!" The Credit Manager smiled for the first time, "and even if we raise the loss in that sense, we'll still have the door barred against really serious losses!"

The flexibility of American Credit Insurance is one of its many outstanding features. For details on the 12 major benefits of Credit Insurance, get your copy of "A Preface to Profits." Write American Credit Insurance, Dept. 50, First National Bank Building, Baltimore 2, Maryland.

**American  
Credit  
Indemnity**

COMPANY OF NEW YORK

## PROGRESS IN PROFIT-SHARING

*A new twist to an old plan  
bears fruit in the vineyards*

PROFIT-SHARING plans for employees have become a common phenomenon of industrial relations in the last decade; a few have even involved trust funds that eventually have bought out or will buy out the company and vest ownership in the employees, so that they become their own bosses.

Much less common—possibly unique—is a profit sharing plan which on September 1 resulted in ownership of The Welch Grape Juice Company passing into the hands of a co-operative comprising the farmers whose grapes go into the making of Welch grape juice, jelly, jam, frozen concentrate, and wine.

Here it is the suppliers of the raw product who have become their own processor and sales organization. It is noteworthy, however, that while the farmers' co-operative was accumulating its share of the profits to buy out the company, employees, too, participated in a profit-sharing scheme which brought them, in 1955, for instance, a bonus of 12.11 per cent of their straight time annual pay.

J. M. Kaplan, president and principal stockholder of the company since 1945, made the farmers' purchase possible. Upon taking charge, he negotiated an agreement with the National Grape Co-operative Association, Inc., agreeing to pay National (for distribution among its members) the total annual proceeds from the sale of grape products after deducting operating expenses and a 10 per cent gross profit for Welch.

In 1952, a new contract, made retroactive to 1951, provided that National would sell and Welch buy all the Concord grapes, U. S. No. 1 quality, produced by National's members. In payment National would receive the net proceeds from sale of all Welch products, payment to be in two forms: At least 10 per cent was to be in 20-year notes of The Welch Products Corporation, owner of all Welch physical properties, and the rest in cash.

The notes were to be placed in trusteeship in a bank, and allocation certificates given farmers in proportion to the tonnage of grapes they had produced. When the trust fund had accumulated to \$15 million, the Co-operative had the option to purchase all stock of The Welch Plants Corporation for \$100,000 in cash. It was figured this would take about ten years. Actually, it has taken slightly less than five years' accumulation.

For additions to plants since 1954 figured at \$6 million, as well as for current assets, good-will, and trademarks, the Co-operative is paying an additional sum of about \$13.5 million, covered by a mortgage.

Welch's net sales for the 1954 crop were \$37 million. Farmer-members of National, the company says, received cash payments for their crop comparing very favorably with total payments made by other processors. In National's Eastern pool, they got \$100 a ton cash for their 1954 crop, plus \$53.91 per ton in the "profit-sharing" certificates.

Welch's business grew from a grape stock created by accident by an experimenter with crossbreeding a century ago; from Louis Pasteur's discovery of how to halt fermentation; and from the kitchen-puttering in 1869 of Dr. Thomas B. Welch, a dentist and church official who wanted a non-alcoholic wine for communion service.

This should stimulate research and also make life easier for husbands who like to putter in the kitchen.

A. G. L.



How modern  
chemistry helps to

# prolong lives of millions

As short a time ago as the year 1900, the average life expectancy was 47 years. Today, you can expect to live to 70 — or more!

Much of the credit for this greatly increased life span can justifiably go to the nation's producers of pharmaceuticals, and their suppliers in the chemical industry.

Research scientists, working for these companies, are constantly seeking new drugs to combat crippling and fatal diseases, to bring new hope of greater health for millions.

From the study of molds found in the earth, air, and the very water we drink, many of these life- and health-giving drugs have been discovered: Terramycin, Aureomycin, Chloromycetin, penicillin, to list a few.

While Wyandotte does not produce these antibiotics or other drugs, it is proud to play a part in their manufacture as a supplier of such fundamental products as: soda ash, bicarb, caustic soda, chlorine, calcium carbonates, wetting agents, and other vital chemical raw materials.

Wyandotte supplies many other industries, too . . . paper, detergent, and petroleum; rubber, glass, and paint. How about your need for quality chemicals . . . we'd like to serve you. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

## Wyandotte CHEMICALS

*Organics, Inorganics—World's largest manufacturers of specialized cleaning products for business and industry*

**1** In a modern hospital, a nurse administers an antibiotic intravenously, to provide fast, antibacterial action in the treatment of a severe case of pneumonia. Lifesaving antibiotics have reduced pneumonia mortality, cut down the length of convalescence, and reduced the cost of medical care. Wyandotte furnishes many high-quality chemicals to drug concerns to aid them in formulating new products for care and treatment of disease.



PHOTO COURTESY CHAS. PFIZER & CO., INC.

**2** Constant care and control in packaging pharmaceutical products eliminates chance and error—for lives depend on it! Wyandotte maintains similar control in manufacture and packaging to insure purity, uniformity—because many Wyandotte products are used in food, pharmaceuticals, cosmetics, without further purification.



PHOTO COURTESY CHAS. PFIZER & CO., INC.

**3** Wyandotte Purecal® is used in coating tablets and pills. Purecals are also a basic ingredient in cosmetic powders, lipsticks, skin preparations, dentifrices. Wyandotte bicarb is used in the preparation of bismuth salts, and widely employed in digestive alkalizers, carbonated beverages, mouthwashes, baking powders.



**4** Want a consultation on your chemical needs? Bring your product or processing problems to Wyandotte. We have modern, advanced research laboratories and facilities, and skilled service scientists ready to assist you with practical, helpful information on the use and application of our many chemicals. Call on us, today.





# YOU ASKED FOR IT

## THE EDITORIAL STAFF

*Dun's Review and Modern Industry*

*With the November issue we introduce a new streamlined format for our magazine, featuring changes in both size and appearance. On this sample page, in the new style, are discussed the reasons for the change and the change itself.*

**F**OR the past two years there have been suggestions that *Dun's Review and Modern Industry* adopt the standard size of roughly 8½ by 11 inches. Our readers are business men, executives, and the complaint about the "jumbo" size was that it didn't fit in a portfolio, that it couldn't be kept for reference in a standard file, and that reprints wouldn't fit into a standard envelope for mailing.

Frankly, we liked the large size or we wouldn't have adopted it. It offered an opportunity to use big illustrations and dramatic photographs. But when the demand from subscribers became more insistent, we decided to sound them out on a broader scale.

We called in H. B. Idleman, director of Dun & Bradstreet Marketing Services Company, a specialist in scientific sampling and an old hand in testing reader attitudes. He was given a free hand. All we wanted was the impartial decision reflecting the ideas and preferences of the majority of our readers.

Scientific sampling is quite an art—something of a mystery to the uninitiated, but it is the method by which Uncle Sam keeps the annual count of his nephews and nieces between the full-count decennial censuses, and he employs it in many statistical chores in the Department of Commerce and the Department of Labor.

Mr. Idleman insisted on random names from the circulation list of the magazine, and he was given the top name on every galley of subscription plates until the list totaled 2,000. A letter was sent along with a questionnaire in a single mailing

to these names. In addition to questions designed to shed important light on the decision, three sizes were offered: the large, 10½ by 13; the standard, 8½ by 11½; and the pocket, 5½ by 8.

There were 1,065 replies to the single mailing, or a 53 per cent return—marked evidence of the interest of readers in this matter. Whether or not you happened to be one of those who received a questionnaire, you might be as surprised as we were by the mandate for a change. Of the 1,065 replies, 740, or 69.5 per cent, favored the standard size; 166, or 15.6 per cent, favored the large size; and 139, or 13.1 per cent, favored the pocket size.

Here are a few other statistics of interest to the editorial and advertising staffs: Exactly 28.7 per cent read the magazine at home, 30.2 per cent read it in the office, and an additional 24.1 per cent read it in both places, while 15.5 per cent carry it on business trips. Of the individuals

responding, 31.4 per cent were presidents, 13.8 per cent were owners or partners, 20.2 per cent were executives other than president, and 18.6 per cent were managers.

Mr. Idleman tells us that 25 per cent of a sample is a good return and sufficient to provide an accurate cross-section of reader preference. He was pleased (and so were we) by the encouraging response.

Well, you asked for it, and you shall have it with the November issue—the standard size; retailed in type style, make-up, and illustration; and saddle-stitched for easier handling. It will change its shape but without any reduction in editorial coverage.

We hope you'll find a magazine improved in looks and text. But you are the judge, and we'll leave the decision up to you, with this little hedge—there's always room for improvement. One thing is certain: Our readers are responsive and candid about what they like—and don't like.

## ANOTHER NOVEMBER PLUS

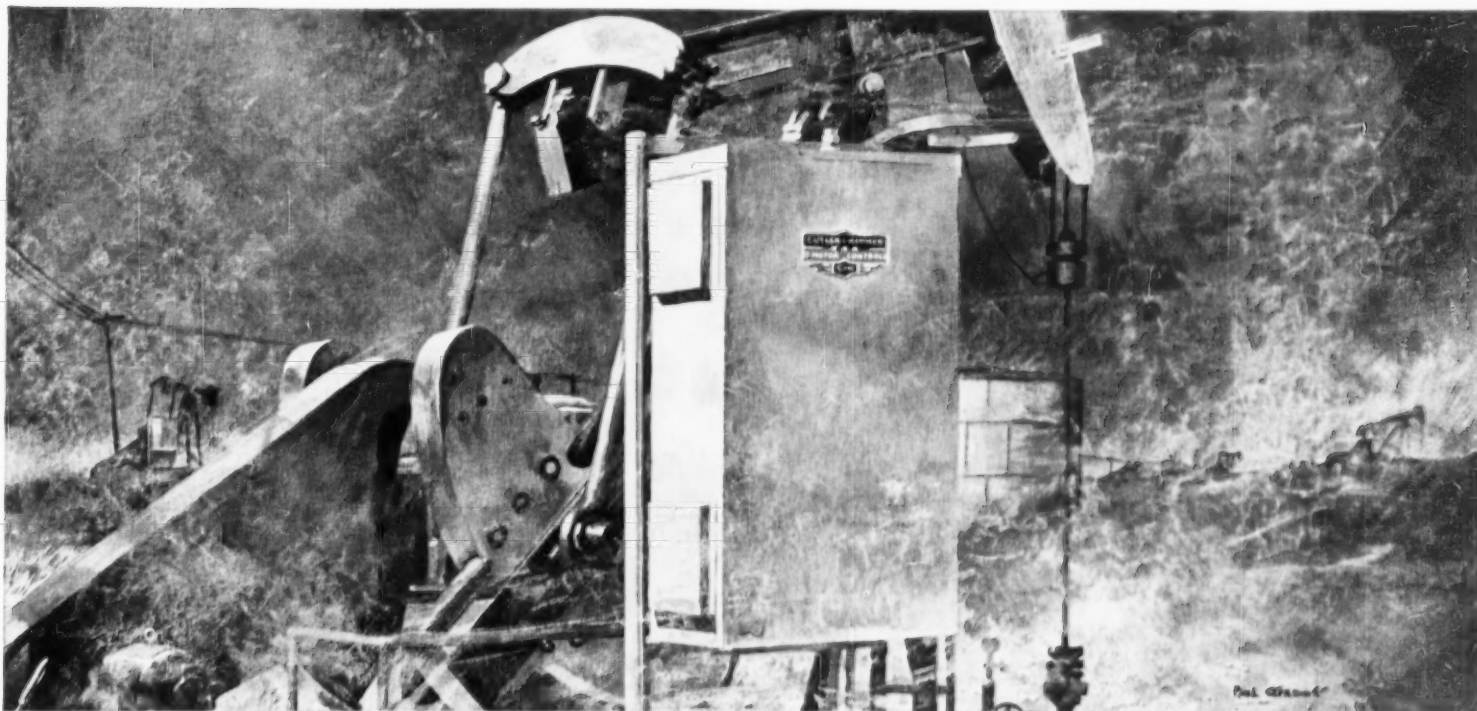
An entirely new department is being added next month. Approximately eight pages will be devoted in each issue to a discussion of international markets and foreign trade, a subject of rapidly increasing importance to all management people. This is another step toward broadening our scope in the continuing effort to serve executives in all areas of management.

Additional space is being provided in the magazine for this department.

The "International Markets" department will be edited monthly by Mr. A. O. Stanley, who has specialized in these matters for more than a decade. He will report world commerce conditions and present specific guidance for profitable export and import operations.

WHAT'S NEW IN MOTOR CONTROL? ★ ★ ★ GET IT FIRST IN CUTLER-HAMMER

## New Cutler-Hammer Three-Star Motor Control brings full automation to oil well pumping



If automation means completely automatic operation, oil well pumping has it today. With a remarkable new Cutler-Hammer Three-Star Motor Control unit, oil wells can now be pumped on a pre-set schedule to meet any field allowable . . . completely unattended *indefinitely* as far as the programming or the electrical equipment is concerned. When a power outage occurs, any number of pumps restart in a fixed sequence to prevent overloading the power lines. The control is protected against lightning and the motors are protected against single-phasing which often results from lightning. Blistering heat, ice, bugs or dust hold no terrors for this control designed to thwart them.

The heart of this new control is the Cutler-

Hammer Supertimer. It does two things. First, it provides the means for setting the desired pumping schedule (hours per day and days per week). Second, it provides 73 accurately *controlled* restarting intervals (restarting time delays from zero seconds to as much as three minutes) to provide *definite* sequence starting of any number of pumps after any power interruption. Nothing is left to chance; unfortunate coincidental restarting of even two pumps is *impossible*. In addition, a small switch on the panel permits instant conversion from automatic to manual restarting whenever it might be desired. This control has *everything*, particularly the engineered dependability so vital in any automation.

Engineers know this is the way Cutler-Hammer designs and builds motor control. It is evident throughout the new complete line of Cutler-Hammer Three-Star Motor Control. If you are a user of industrial electric motors, it deserves your *immediate* investigation. Its easier installation often affords almost unbelievable savings. Its better performance will save much costly trouble. Its amazingly longer life pyramids its economies. Try it. Compare it. Prove it. Your nearby Cutler-Hammer Authorized Distributor is stocked and ready to serve you. Order from him *now*. CUTLER-HAMMER, Inc., 1436 St. Paul Avenue, Milwaukee 1, Wisconsin. Associate: Canadian Cutler-Hammer, Ltd., Toronto.

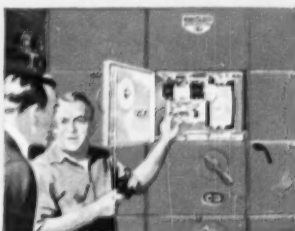
Cutler-Hammer Three-Star Motor Control is available in every needed form



Cutler-Hammer Authorized Distributors carry stocks of Three-Star Motor Control in sizes and types of enclosures to meet all the usual industrial needs.



Leading machinery builders equip their machines with Cutler-Hammer Three-Star Motor Control as standard original equipment, often as components on panels.



The new Cutler-Hammer Three-Star Unit provides for the quickest installation or rearrangement of the finest in control equipment, C-H Three-Star Motor Control.

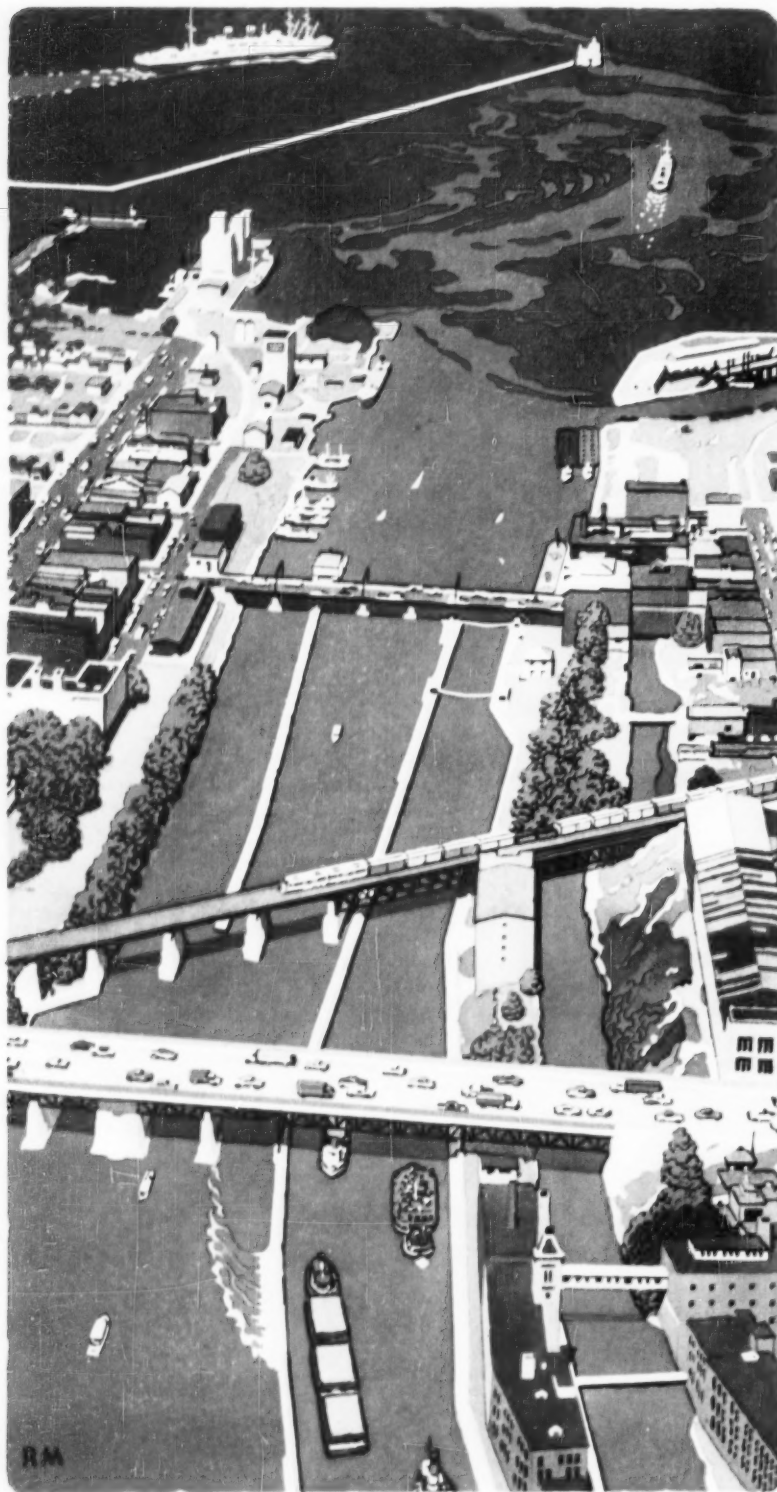
★ *installs easier*

★ *works better*

★ *lasts longer*

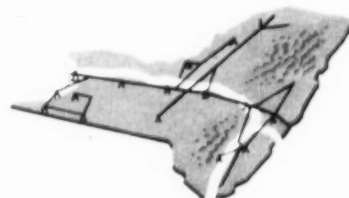


# "UPSTATE, N.Y."



IN THE grand strategy of locating a new plant or distribution outlet, you'll find that one of the most *strategic areas* is that served by the port of Oswego in Upstate New York.

This fine, big harbor on Lake Ontario, sits astride the great "commercial waterway" that links the markets of the Great Lakes, the St. Lawrence Seaway, and the ports of the world. Industry here is also served by fine railroads, the New York State Thruway and Barge Canal. Skilled, home-owning labor insures high quality products. There's lots of low-cost electricity and natural gas from the Niagara Mohawk System. Let us tell you more about the entire Upstate New York area that offers so many *measurable* advantages to industry seeking a new home. Write to Earle J. Machold, President, Niagara Mohawk Power Corporation, Syracuse, New York.



The New York State Thruway flows through the heart of the Niagara Mohawk System . . . an area of opportunity for business seeking a new home near rich markets, with a wealth of natural resources at hand.

powered by  
**NIAGARA  
MOHAWK**

NIAGARA  MOHAWK



# LET'S PLAY POLITICS FOR WHAT IT'S WORTH



THE STATEMENT that business and politics won't mix is an assumption that is the result of selective reasoning and self-justification. When business men say it they are side-stepping their responsibilities as citizens. Business has a stake in politics that gains in significance as business and politics become integrated in the complexities of the social order. Business men cannot insulate their universe against invasion, nor divorce their function from the ordinary business of living. Regulatory legislation controls the movement of the merchant and industrialist, often with necessary restrictions, occasionally with needless and punitive results, and sometimes encroaches upon their rights and privileges. The business man needs to be a politician in the best and most dynamic sense of the word.

Government exists for the citizen. The political servant, whether elected or appointed, holds office by consent of the individual voter and taxpayer who employs him and pays him. Management is just as important in government as in industry or trade, and basic principles are the same for management in business or government. Both are judged by the quality of services rendered.

Why should a business man concern himself with parties, candidates, platforms, and campaign issues? The man who neglects political decisions must abide by the decisions of others as expressed at the polls. When he neglects the decision of choosing a candidate he neglects not only his business, which may be aided or injured by the result of the election and subsequent

legislation and administration, but he neglects his duty to country and family. He always has more at risk than the craftsman who goes to the polls regularly and makes his voice count in the affairs of the community.

When we say, "Let's play politics for what it is worth," we mean let's play the game of being a citizen every day of the year, selfishly for our rights and altruistically for our country in general. In a democracy majority decisions are accepted, but organized minorities often rule by default when the majority is negligent toward its civic duty on election day.

In the complex patterns of our modern economic life there is, by necessity, a vast amount of regulatory law affecting the business man. The extent to which these statutes hamper, aid, or guide the conduct of business often depends upon the attitude of the legislator and the influences acting directly upon his judgment. There is need for regulatory legislation, but business men should have a voice in the framing of any law limiting or disciplining their conduct in trade as well as encouraging them to serve the community at a personal or corporate profit. They should not wait until unskilled or unfriendly hands have shaped the proposed legislation with language unfair, inept, or vague, or with a threat of damage to a specific industry or trade in general.

Politics is a game to be played seriously for a community as well as a state or national audience. The business man bears a large share of the tax burden of the community and he is entitled to a voter's full share of privi-

lege in the planning for civic improvements and welfare.

Politics at its best is the exercise of government in action, and it is a rewarding game for the individual when it is played with a zest that reflects personal intelligence and enterprise. It is only when business men get cynical and lose faith in the power of the ballot or rely on group memberships to protect their interests that opportunists take over.

No trade association secretary, worthy and alert as he may be, should be empowered to act, or expect to assume the full responsibility of a group of citizens, for any selfish or selfless project. It is an individual's responsibility to express approval or indignation on questions of public interest, and the ballot box is still the best place to register an opinion. It is far better to create a fair climate for business legislation on election day than to set up defenses when the hour is late and the atmosphere in Congress or a state legislature is frosty.

This is a presidential year with issues of importance to business men at home and abroad. The result of the elections can help stabilize world trade as a tool of peaceful enterprise or endanger it, depending on the quality of representation and service given us in public offices. We can get the best only when we ask for the best. Let's apply this to political decisions which affect our profits, security, freedom, even our survival. The United States is the biggest business the world has ever known. It must have the finest management available. It can get it only when we play politics for what it is worth.

*The Editors*



# THE CASE AGAINST VARIABLE ANNUITIES



FREDERIC W. ECKER

**EDITOR'S NOTE:** *These views in opposition to variable annuities as a form of insurance are a sequel to last month's statement by Mr. Shanks of Prudential Insurance Company who favors lifting current legal restrictions. Mr. Ecker was with Bankers Trust Company for three years before joining Metropolitan in 1925 where he rose from assistant treasurer to president. Mr. Funston, after holding several executive positions in industry, served with the War Production Board and with the United States Navy. He was later named president of Trinity College and accepted his present position in 1951.*



G. KEITH FUNSTON

## FREDERIC W. ECKER

President, Metropolitan Life Insurance Co.

A LEADING proponent of the so-called variable annuity has recently stated that his company "... believes in the continued need for fixed dollar annuities and insurance policies and will go on stressing them, because nothing else can give such solid protection against loss of income." Certainly no one can take issue with that statement. It is the solid protection guaranteed by the contracts of American life insurance companies that, over the years, has established in the minds of the American people the unrivaled reputation for financial security which our companies now enjoy. These contracts are looked upon as something safe and certain, which can be relied upon under all circumstances. The life insurance business should offer nothing less than that "solid protection."

Public confidence and good-will, the greatest assets of which our business can boast, have not been easily won; they should not lightly be put in jeopardy by the issuance of variable contracts which are neither safe nor certain, but which are bound to be clothed with the aura of safety and certainty if they are issued by life insurance companies.

The purpose of this article is to examine the variable annuity proposal critically and to discuss the basic issue involved: whether, in the public interest, the life insurance companies of the country should sell variable annuity contracts.

The true annuity calls for the periodic payment of a fixed number of dollars and the number of such dollars is guaranteed. The consideration may be paid in a single sum or in annual or more frequent payments over a number of years. The annuity may be an immediate one with payments to the holder starting as soon as it is purchased or the payments may be on a deferred basis starting, for example, upon retirement. The consideration is based upon the expected mortality, the estimated interest return, and the estimated expenses. The life insurance company contracts to pay fixed sums periodically no matter whether the economy is booming or is in the depths of a depression. The annuitant may receive more than the guaranteed payments by way of dividends if earned; he will never receive less. This substantial guarantee is the essence of an insured contract; it is this guarantee which is the cornerstone of the life insurance business.

One proponent of variable annuities has stated: "The variable annuity system is not just a new wrinkle in the insurance business. It is a substantial departure from the legal reserve system."

*Continued next page, first column*

## G. KEITH FUNSTON

President, New York Stock Exchange

FOR many years the New York Stock Exchange has advocated broader share-ownership in America. The Exchange believes that broader public participation in the ownership of American business is in the long-run interest of investors, of the securities industry, and of our nation's economy. The Exchange welcomes the entrance into this endeavor of any and all persons or institutions which can make a sound contribution to the achievement of the broad share-ownership goal.

The Exchange's endorsement of broader share-ownership does not mean, however, that it believes in selling common stock to all persons indiscriminately. In its public statements and advertisements the Stock Exchange stresses the risks as well as the rewards of stock ownership. We advocate full disclosure of all corporate affairs so that the potential investor will have available the facts on which to base a sound investment judgment and we urge "investigate before you invest."

The Exchange regulates carefully the methods used by our member firms in soliciting business from the general public. The advertising of our members and member firms must be approved in advance by the Exchange. Improper sales methods are banned. The Exchange also insists that the salesmen of its members are properly trained and supervised in the sale of securities.

All of these self-imposed safeguards and restraints are appropriate and in the public interest in connection with the sale of securities.

While a so-called "variable annuity" is similar to a fixed annuity in the sense that premiums are paid in return for the company's agreement to make periodic payments, there the similarity ends. Under a so-called "variable annuity" there is no guarantee from the issuing company as to the amount of the periodic payments. The premiums are invested in common stocks and the entire risk of market fluctuation in the value of those stocks, as well as the fluctuation in income yield, is borne by the policyholder and not by the issuing company. The size of his periodic retirement payments will be determined by the level of the stock market and common stock yields. The customary guarantee of the fixed annuity will be totally lacking. To call such contracts "variable annuities" cannot, in our opinion, change their basic character as contracts which represent an interest in a common stock investment portfolio.

There is considerable support for the view that variable annuities are

*Continued next page, second column*



It is indeed a substantial departure; there are many important differences between the true annuity and the variable annuity. The one most immediately apparent is that no *substantial* guarantees are involved in the variable annuity. The elements of guarantee with respect to mortality and expense are only minor factors in the over-all picture. Practically speaking, there is no insurance of a risk by the issuer. The considerations paid by the holder are invested, after certain deductions for expenses, in equity securities, that is, common stocks. The amounts paid out during retirement may fluctuate widely, depending upon yields and the then current market for the common stocks back of the contract. The annuitant may receive more than he expects or he may receive less than he expects. He is promised no periodic dollar income whatsoever; he is promised only what the "units" set aside for him will produce. These "units" represent his pro rata share of the *then* market value of the common stock fund. The common-stock fund will obviously fluctuate widely in accord with market conditions. As one of the spokesmen for variable annuities has said, "The annuitant takes the risk on that fund." With the fluctuations of the stock market will come fluctuations in the variable annuitant's income, and at times such fluctuations are severe indeed.

Proponents of variable annuities count heavily on what is known as the dollar-averaging theory to reduce the risk in common-stock purchases. By this is meant that, since the premiums paid for the variable annuity are to be constant over an extended period of time, the common-stock shares acquired will have been purchased at an attractive price. The average price will neither be at the top of the market nor at the bottom. Furthermore, the same premium will purchase more shares when the market is low than when the market is high, which should tend to provide a better average price per share.

One is bound to question, however, whether such a theory will stand up in practise. From our experience we know that in a period of depression many individuals, due to reduced incomes, are not able to keep up even their life insurance premiums. How much more difficult would it be to keep up payments on a contract which, in most instances, would not be nearly so essential as a life insurance contract. Yet, this would be just the time when, to make the dollar-averaging theory work, it would be most important to continue payments—when presumably common-stock prices would be low and any given sum would purchase more shares.

Furthermore, even among those who possessed the income to continue their payments, many would not. Human nature being what it is, people in a depression period tend to lose confidence and to question the desirability of continuing to purchase common stocks when the prices of such stocks are continually falling.

If the variable annuity concept is a sound one for annuities, it should be equally sound for life insurance and for life insurance settlement options. Should we have variable life insurance policies, variable endowment policies, and variable family income riders? Where do we draw the line?

The proponents of the variable annuity contract have publicly stated that settlement options serve the same purpose as annuities, and are a proper and desirable use of the variable annuity idea. If applied to settlement options, this could mean that a widow might apply the proceeds of her husband's life insurance, either in a lump sum or over a period of a few

*Continued on page 132*

securities. Organizations in every field in the securities industry, as well as many leaders in the insurance industry, have gone on record to this effect including both the National Association of Securities Administrators and the Securities and Exchange Commission.

The Commission is seeking a court injunction against one company to restrain the sale of variable annuities until the company has complied with the registration requirements of the Securities Act of 1933 and with the Investment Company Act of 1940. The Commission's action was based on its conclusions that the "contract constitutes an investment contract . . .

within the definition of the term security contained in the Securities Act of 1933" and that a company issuing variable annuities is "engaged in the business of investing, reinvesting, and trading in securities within the definition of an 'investment company' contained in the Investment Company Act of 1940."

The Stock Exchange believes that regulation by governmental agencies of the issuance and sale of securities is in the public interest. If common stock investments—with all the risks involved—are offered without securities regulation, we fear that the results will injure the public and also the entire securities industry.

Advocates of variable annuities have stated that the insurance industry is the most heavily regulated industry in the country and that no additional regulation would be needed

even though insurance companies were permitted to issue and sell securities through the medium of variable annuities. But it should be borne in mind that insurance regulation is directed primarily to the financial affairs of the company to assure, insofar as possible, its ability to meet its guarantees, while securities regulation is designed primarily to provide for full disclosure to the investor and to protect the public from false or misleading information.

The difference between insurance regulation and securities regulation is highlighted by the fact that the Superintendent of Insurance of the District of Columbia approved the sale of variable annuities by the Variable Annuity Life Insurance Company of America. Presumably, his decision was based on the company's compliance with all of the applicable insurance laws. Nonetheless, the Securities and Exchange Commission, after months of study, has concluded that compliance with insurance laws is not enough. A variable annuity, according to the SEC, is a non-exempt security and must be regulated as such.

The question is not whether insurance companies are adequately regulated for purposes of selling insurance. The question is whether they should be permitted to engage in the securities business without submitting to the federal and state regulations which have been developed over the years to protect the public in the sale of securities. The protections which should be applied might well include:

1. The use of a prospectus in the sale of variable annuities.
2. The application of the same standards to sales literature and advertising used in the sale of variable annuities to the sale of securities.
3. Limitations on permissible investments by companies selling variable annuity contracts.
4. Safeguarding of the public against fraud in the sale of variable annuities.

Another facet of this problem arises from the significant tax shelter

*Continued on page 135*

## CONVICTIONS AND CONTROVERSY

From time to time the magazine presents the opposing views on controversial questions of people whose background and experience lend authority to their opinions. The statements of these people, based on strong but divergent convictions, provide information to stimulate the thinking of those who may agree or disagree.

The statements included here by Mr. Ecker and Mr. Funston were preceded in the September number by a statement from Mr. Carrol M. Shanks, president of Prudential Insurance Company of America. Mr. Shanks is a firm advocate of lifting the legal restrictions limiting the sale of variable annuities by insurance companies.

EDITOR'S NOTE: *This is the second in a continuing series of articles on the newer rubber-like materials and their uses. The first, dealing with silicone and fluoro-carbon rubbers, appeared in the April 1956 issue.*

## NEW MATERIALS THAT BOUNCE

### *II Polyethylene rubber and polyurethane rubber*

ANNESTA R. GARDNER  
*Industrial Editor*

**W**ITH ALL the rubber-like materials now available, can there be room for two more?

The answer is "yes"—when they offer such inviting properties as do chlorosulfonated polyethylene rubber and polyurethane rubber.

Industry's demands for resiliency *plus*—for bounce and stretch combined with resistance to heat and cold, mechanical wear, and chemical attack—can probably never be met by any single material. But these two new ones go a long way toward answering a good many needs. They're being considered right now for products ranging from floor tile and wading boots to industrial truck tires and conveyor belts.

These new rubber-like materials are not inexpensive. Polyethylene rubber costs less than a dollar a pound and the polyurethanes are a little more. But they're a lot cheaper than such special-purpose rubbers as the silicones and

fluorocarbons (see April, page 43), and there is every reason to expect prices to come down as production climbs.

Polyethylene rubber, as its name implies, is related to the tough, flexible plastic that is found on store counters and in so many industrial plants (see June 1955, page 89). But it is not the same material. The rubber, introduced by Du Pont about three years ago, represents a chemical modification (chlorosulfonation) of the resin which turns it into an elastomer and adds to its toughness and heat resistance.

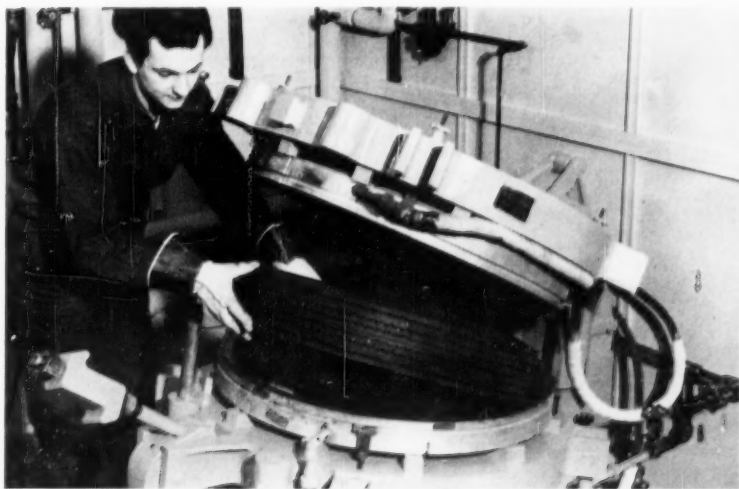
Polyurethane rubber is even more closely related to the polyurethane or polyester-isocyanate foams which have recently become so popular. The rubber (frequently called "isocyanate rubber," "polyester rubber," or urethane rubber," for short) is basically just an unexpanded urethane foam. However, processing and application of the solid rubber are so different from the

procedures used for the foam that it really is a different material.

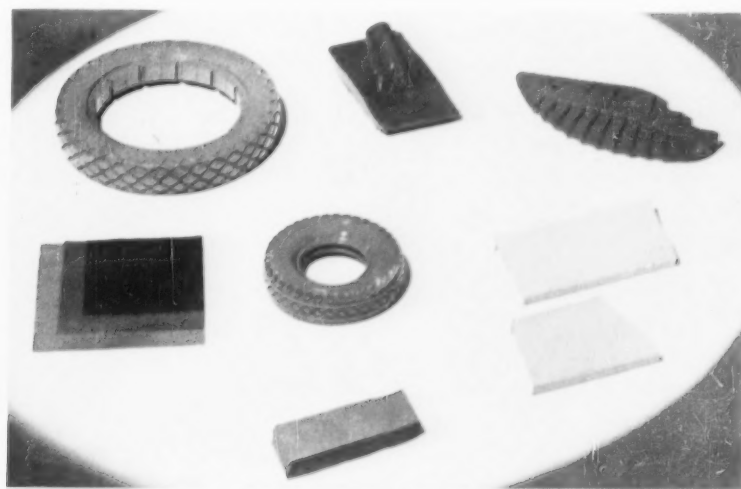
**Polyethylene rubber's** outstanding qualities are its resistance to ozone, corona discharge, weathering, and chemical attack. Its heat resistance is good (operating temperatures can run as high as 250° Fahrenheit) as is its low temperature flexibility. It can be produced in bright, durable colors because it does not require carbon black reinforcement to develop good strength and wear resistance and does not discolor with age.

One property alone—resistance to ozone and corona discharge—promises to bring it a host of important applications, ranging from ozone-generating equipment (see page 44) and spark-plug covers to telephone linemen's blankets.

Resistance to the chemicals used in processing synthetic fiber yarns, combined with wear resistance, make this new material especially in-



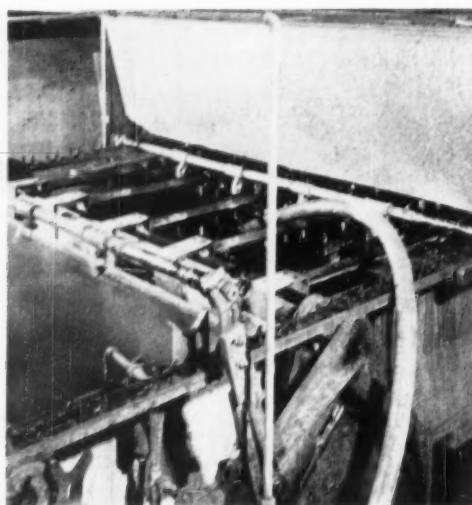
Greatest volume potential for both polyethylene and polyurethane rubbers lies in automobile tires. Neither is yet ready for commercial use here, but industrial applications (photograph, right) are moving ahead fast.



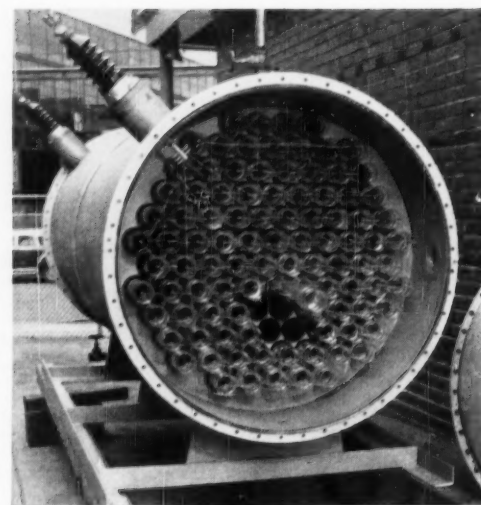
Industrial truck tires, floor tile, and heavy-duty coated fabrics take advantage of the wear and scuff resistance of these new rubbers. Their many other good qualities also open up many new markets in mechanical goods.



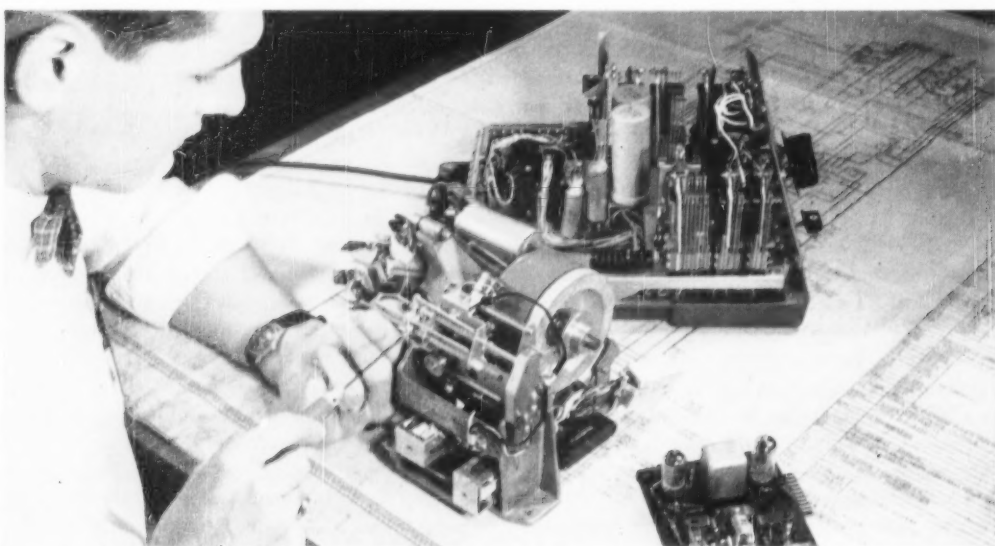
Polyethylene rubber belt handles hot salt with ease. U.S. Rubber made this belt of *Hypalon*, says it outlasts other types at least three to one.



Electroplating solutions don't faze polyethylene rubber hose. This one, made by Hewitt-Robins, has already been in service nearly three years.



Flexibility and ozone resistance led Welsbach Corporation to choose *Hypalon* polyethylene rubber for gasketing ozone generators like this.

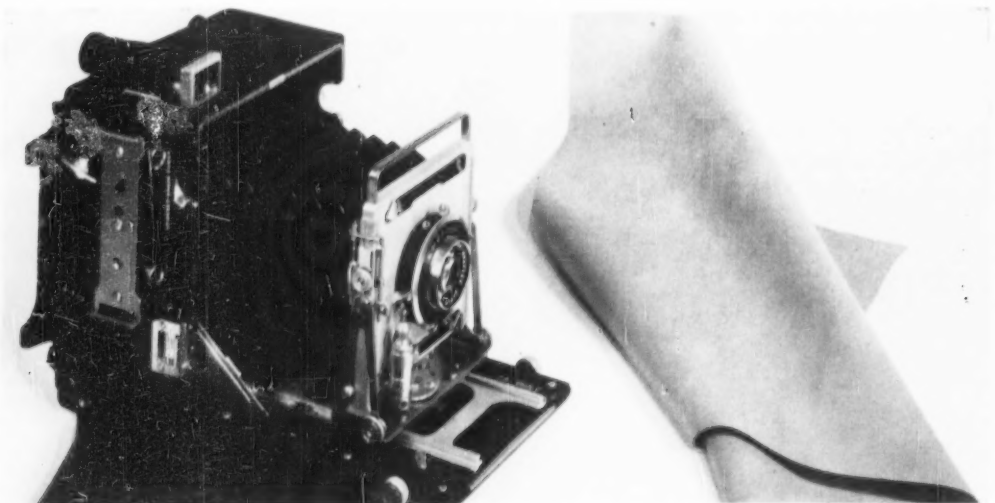


Recording band for automatic telephone-answering device is molded of polyethylene rubber compounded with magnetic iron oxide. Bell Telephone Laboratories, which developed the unit, says no conventional material could match this rubber in performance, durability, ease of adjustment.

## Polyethylene rubber

Coated on fabrics, painted on metals, or molded to shape, polyethylene rubber offers a host of advantages: heat and ozone resistance, scuff resistance, weatherability. Its ability to stand many natural and synthetic oils, peroxides, and acids is superior to that of natural rubber, and it does not become brittle at low temperature or harden with age.

In addition to the products shown here, polyethylene rubber is being tested for industrial rolls, weatherstripping, spark plug covers, floor tile, footwear, raincoats, wire and cable insulation, automobile tire side walls, and sporting goods. Recent research also indicates that this new rubber blends well with many other elastomers, increasing their resistance to abrasion, heat, ozone, and water, and improving their low temperature properties.



Coated fabrics can serve as camera bellows and cloths, tarpaulins, auto tops, upholstery, and work clothing. *Hypalon* solution coatings (polyethylene rubber is not yet produced in latex form) are now being applied to such fabrics as cotton duck, glass fiber textiles, nylon, Orlon, and Dacron.



Maintenance coatings may be applied by brush or spray to protect metal, wood, and other rubbers from chemical attack and weathering.



teresting to the textile industry. For instance, Carolina Rubber Hose is using this new elastomer for the rubber-covered squeeze rolls it makes for the textile industry, and says its performance is excellent.

Quaker Rubber reports that the new material's ability to stand concentrated acids, ozone, and heat can be used to advantage in many types of hose, gasketing, and conveyor belts. Polyethylene rubber belts, Quaker says, can handle materials at temperatures as high as 500° Fahrenheit; and the hose will stand concentrated acids in the 150° to 200° Fahrenheit range.

Strength and abrasion resistance are the two qualities that have engineers most excited about **polyurethane rubber**. Even without reinforcement it is possible to obtain tensile strengths up to 7,000 p. s. i. That's nearly twice as strong as polyethylene rubber and the general-purpose synthetics.

An indication of urethane rubber's abrasion resistance is the fact that shoe heels made of this material outlast other rubber heels by factors as high as 30 to 1.

But these are by no means its only good qualities. Greer Hydraulics, for instance, got interested in polyurethane rubber because of its resistance to hydraulic fluids—and became so enthusiastic about its possibilities that a subsidiary, Greer Industries, is now set up to compound stocks and mold products not only for Greer's own use, but also for other companies (see photograph, right).

Other good properties of polyurethane rubber are its flex resistance, tear resistance, and ability to withstand ozone attack and weathering.

The greatest limitation of urethane rubber has been its relatively narrow temperature range. As the temperature drops below zero, it stiffens considerably, and its top operating temperature was about 200° Fahrenheit. But new types now being introduced are said to stand 250° Fahrenheit or more and to resist embrittlement even at very low temperatures.

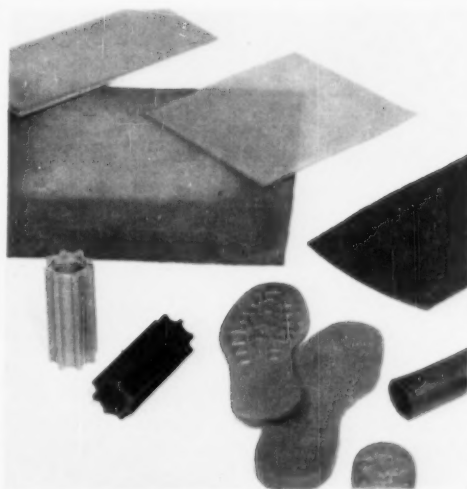
Urethane rubber has also presented a number of processing problems—particularly in automobile tires.

It has been difficult to find a way to make polyurethane tire treads adhere satisfactorily to the tire carcass. Progress is being made, though, with new formulations and new processing techniques.

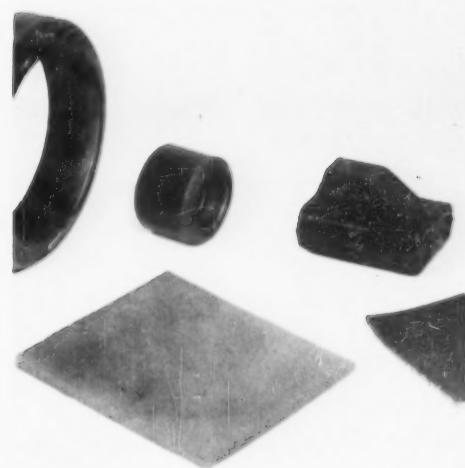
These limitations again point up the fact that there is no "universal" rubbery material. But these two new ones have a lot to offer and certainly rate consideration wherever flexible, resilient materials are used.

Producers and compounders of polyurethane rubber include Du Pont, Greer Industries, Mobay, Goodyear, and U. S. Rubber, and is known by such trade names as *Adiprene*, *Disogrin*, *Chemigum SL*, *Vulkollan*, and *Vibrathane*.

So far, Du Pont is the sole producer of polyethylene rubber. Its trade name: *Hypalon*.



Abrasion resistance of urethane-coated fabrics promises longer-lasting tarpaulins, sheathing, and shoe soles. These are Goodyear samples.



Tires, tank blocks, press pads, and conveyor belts, and many other products can benefit from polyurethane rubber's special qualities.

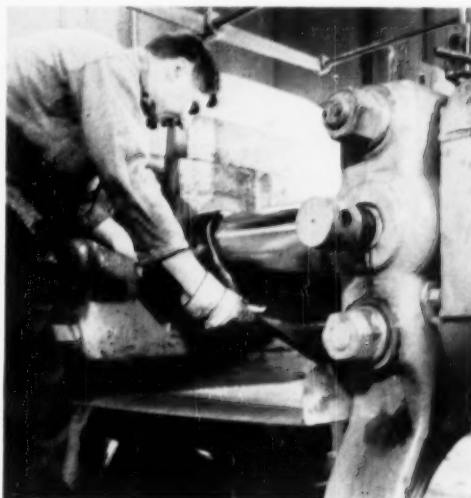
## Polyurethane rubber

Motor mounts, gears, diaphragms, rollers, gaskets and valve inserts are among the engineered parts which should be able to take advantage of this material's excellent physical properties and its resistance to chemicals and hydraulic fluids. It makes a good cushioning material and has excellent vibration-damping abilities.

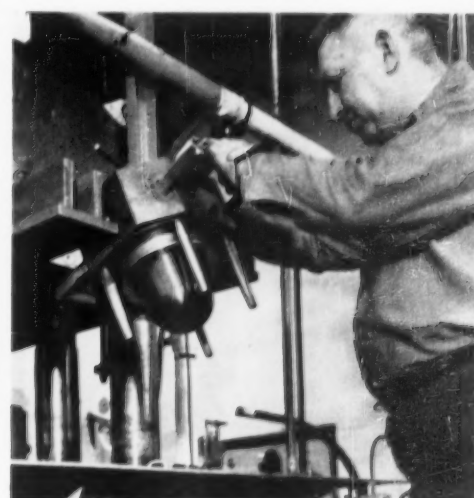
Polyurethane rubber promises to be especially useful as an engineering material because its properties can be adjusted in several ways: by changing the processing method, by adding fillers (carbon black, for instance, increases strength and hardness), and by varying the basic materials from which this rubber is made (any one of several polyesters and isocyanates may be used).



Urethane rubber is molded into hydraulic accumulator bladders, wheels, scrapers, and grommets by Greer Industries. Note metal inserts.



Compounding is one way to improve urethane rubber's good qualities and overcome its faults. Greer has several types for molded parts.

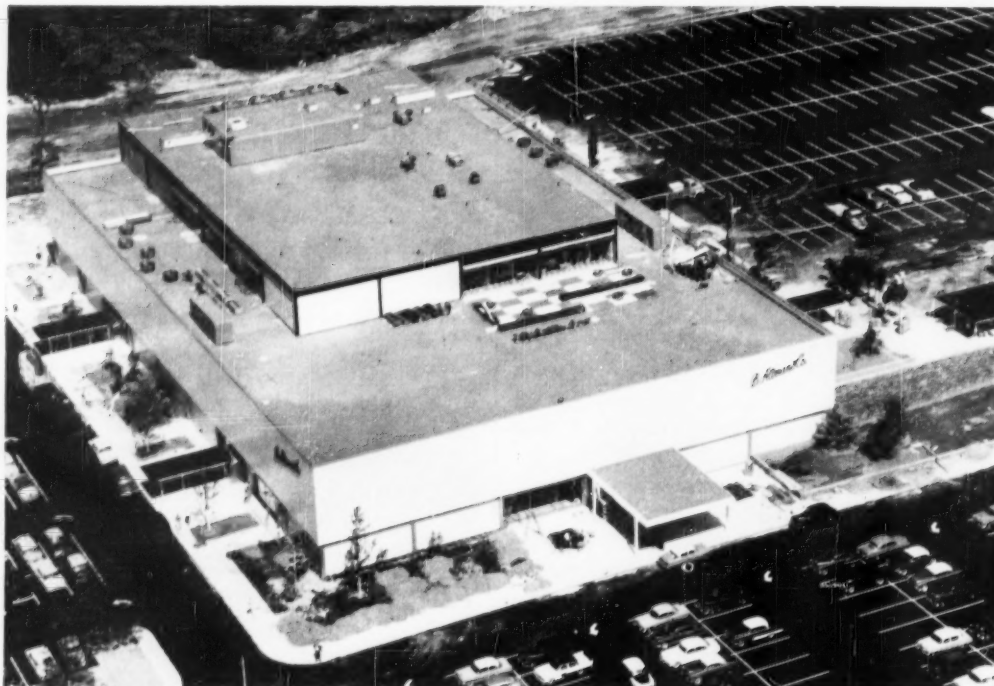


Moldability of urethane rubber is indicated by this simple machine, built and used by Greer. Here, accumulator bladder (top photo) is formed.

# 14 important ratios

IN 12  
RETAIL  
LINES

For the past quarter-century, these ratios have been compiled by Roy A. Foulke, vice-president of Dun & Bradstreet, Inc. A unique way for a retailer to compare the soundness of his operations with that of his competitors the use of the ratios has been time-tested. Similar ratios for wholesalers will appear in the November issue of DUN'S REVIEW AND MODERN INDUSTRY, for manufacturers, in December.



ALTMAN'S NEWEST RETAIL STORE IN SHORT HILLS, N. J., BOASTS A WELL-APPOINTED CLUB ROOM, AVAILABLE TO ORGANIZATIONS FROM THE SURROUNDING COMMUNITIES FOR MEETINGS AND SOCIAL EVENTS, IN ADDITION TO THE ACCUSTOMED DEPARTMENTS AND SERVICES.

SOME of the more striking changes in the financial position of retailers took place last year in the men's clothing lines. The median ratio of net profits to net sales for men's furnishings stores in 1955 was almost three times larger than in 1954, while inventories were noticeably reduced. For men's and boy's clothing stores, the ratio of net profits to tangible net worth rose to 8.13, compared with 5.66 in 1954; and the net profit on net sales was the highest in five years. That the retailers of men's and boy's clothing managed to reduce their debt burden, while increasing their profits, was reflected in the median ratio of total debt to tangible net worth, down to 67.6 per cent in 1955, from 74.0 per cent in 1954. This was the lowest such ratio for men's and boys' clothing stores in four years, compares with the 1950-1954 average of 73.0 per cent.

Reflecting the stiffened competition coupled with rising costs, the median ratios of net profits to net sales in 1955 dropped below the 1954 level for department stores, women's specialty shops, shoe stores, and retailers of hardware, and lumber and building materials. The net profits on net sales for most of these retailers were below the averages for the years 1950-1954, as well.

The median ratio of net sales to inventory was slightly higher in 1955 than in 1954 in most retail lines, except furniture, independent gro-

cery and meat stores, lumber and building materials, and shoes, where inventories apparently thinned out in relation to sales volume.

For furniture stores, net profits on tangible net worth in 1955 were substantially above the 1954 level and there was also a noticeable rise in the ratio of net profits to net working capital. The ratio of total debt to tangible net worth for furniture stores in 1955, at 60.2 per cent, was well below 1954's ratio of 84.2 per cent, closer to the 67.3 per cent average for the five years 1950 through 1954.

Contrastingly, the median ratio of total debt to tangible net worth jumped for retailers of lumber and building materials, reaching 70.9 per cent in 1955, compared with 59.7 per cent in 1954. And some 76.4 per cent of the working capital was tied up in inventory, compared with 68.7 per cent in 1954.

## Debt Heavier

There was a marked rise in the ratio of total debt to tangible net worth for independent retailers of groceries and meats—hitting 97.8 per cent in 1955, this ratio was well above the 67.7 per cent in 1954. Inventory was considerably heavier in relation to net working capital, too.

The current debt of women's specialty shops became noticeably lighter in relation to tangible net worth; the median ratio was 21.2 per cent in 1955, compared with 36.1 per cent in

1954. But the drop contrasted with a rise of more than five percentage points in the ratio of total debt to tangible net worth. And the ratio of current debt to inventory rose to 110.1 per cent, well above the 91.9 per cent in 1954 and the 90.5 per cent average for the years 1950-1954.

The median collection period in 1955 for both installment furniture retailers and retailers of lumber and building materials rose above 1954's average by 20 days and three days, respectively. The average collection period for both these lines was noticeably longer than the average for the years 1950-1954.

Of the twelve lines, the retailing of dry goods appeared to be the more profitable per unit of sales. The median ratio of net profits on net sales was 5.92 for retailers of dry goods in 1955. This was almost five times as large as the median ratio of net profits on net sales for independent retailers of groceries and meats, the line with the least profit per unit of sales.

But as a proportion of working capital, net profits were highest for the independent retailers of groceries and meats, two or three times as large as in most of the other twelve lines. The independent retailers of groceries and meats turned their inventory over far faster than the retailers in the other eleven lines. The average independent grocer's net sales were 14.0 times his inventory in 1955, markedly higher than the ratios for the apparel retailers.

# 14 IMPORTANT RATIOS IN 12 RETAIL LINES

Line of Business	Number of Concerns	Inter-Quartile Range	Current Assets to Current Debt	Net Profits on Net Sales	Net Profits on Tangible Net Worth	Net Profits on Net Wkg. Cap.	Net Sales to Tangible Net Worth	Net Sales to Net Working Capital	Average Collection Period	Net Sales to Inventory	Fixed Assets to Tangible Net Worth	Current Debt to Tangible Net Worth	Total Debt to Tangible Net Worth	Inventory to Net Working Capital	Current Debt to Inventory	Funded Debt to Net Wkg. Capital
			Times	Per Cent	Per Cent	Per Cent	Times	Times	Days	Times	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
FOR TWELVE RETAIL LINES—1955—MEDIAN AND QUARTILES																
Clothing, Men's and Boys'	169	Upper Quartile	5.97	7.11	11.15	22.98	3.34	4.07	**	5.2	5.1	17.4	46.1	63.3	34.1	15.6
		<b>MEDIAN</b>	<b>3.08</b>	<b>3.91</b>	<b>8.13</b>	<b>10.99</b>	<b>2.48</b>	<b>3.11</b>	<b>**</b>	<b>3.7</b>	<b>11.4</b>	<b>36.9</b>	<b>67.6</b>	<b>87.7</b>	<b>58.8</b>	<b>23.9</b>
		Lower Quartile	2.04	1.61	4.74	6.02	1.43	2.25	**	2.9	31.2	68.8	130.1	120.4	83.4	45.1
Clothing, Men's and Women's	97	Upper Quartile	7.22	8.72	14.40	27.45	3.09	4.61	**	5.8	8.9	11.0	26.7	43.7	26.8	12.9
		<b>MEDIAN</b>	<b>4.16</b>	<b>3.18</b>	<b>8.45</b>	<b>11.59</b>	<b>2.26</b>	<b>3.15</b>	<b>**</b>	<b>4.4</b>	<b>15.2</b>	<b>25.8</b>	<b>47.0</b>	<b>68.1</b>	<b>52.0</b>	<b>22.6</b>
		Lower Quartile	2.37	0.97	2.67	3.12	1.40	2.29	**	3.0	30.9	48.6	86.1	92.7	81.0	37.3
Department Stores	404	Upper Quartile	5.18	3.05	8.35	12.52	3.80	5.44	**	7.7	14.6	16.5	42.7	50.0	39.2	13.8
		<b>MEDIAN</b>	<b>3.58</b>	<b>2.06</b>	<b>5.80</b>	<b>7.81</b>	<b>2.87</b>	<b>4.03</b>	<b>**</b>	<b>6.2</b>	<b>25.4</b>	<b>27.1</b>	<b>61.1</b>	<b>65.5</b>	<b>63.5</b>	<b>25.7</b>
		Lower Quartile	2.44	1.03	3.47	4.09	2.28	3.12	**	4.7	47.2	45.9	87.9	92.8	88.1	51.9
Dry Goods	83	Upper Quartile	11.30	9.60	19.26	28.93	3.68	6.02	**	5.5	5.3	3.4	43.2	56.1	19.4	11.2
		<b>MEDIAN</b>	<b>4.67</b>	<b>5.92</b>	<b>10.75</b>	<b>20.00</b>	<b>2.01</b>	<b>3.30</b>	<b>**</b>	<b>3.9</b>	<b>14.9</b>	<b>20.4</b>	<b>60.9</b>	<b>86.0</b>	<b>32.7</b>	<b>28.5</b>
		Lower Quartile	2.10	2.70	8.63	9.35	1.42	1.95	**	2.8	32.6	49.0	100.4	131.6	67.3	43.0
Furnishings, Men's	43	Upper Quartile	10.50	8.23	12.22	14.86	3.27	3.82	**	4.0	3.8	8.7	38.2	61.8	18.7	11.2
		<b>MEDIAN</b>	<b>4.59</b>	<b>5.35</b>	<b>8.92</b>	<b>9.63</b>	<b>1.98</b>	<b>2.88</b>	<b>**</b>	<b>3.4</b>	<b>13.1</b>	<b>17.9</b>	<b>83.7</b>	<b>89.8</b>	<b>37.9</b>	<b>36.6</b>
		Lower Quartile	2.28	1.17	3.92	4.63	1.39	1.80	**	2.4	28.1	71.6	127.6	130.5	66.2	49.9
Furniture	54	Upper Quartile	5.39	5.27	10.13	11.81	3.17	4.42	**	5.4	5.1	19.3	40.5	50.7	40.1	8.3
		<b>MEDIAN</b>	<b>3.30</b>	<b>1.84</b>	<b>6.54</b>	<b>6.83</b>	<b>2.19</b>	<b>3.02</b>	<b>**</b>	<b>4.1</b>	<b>14.8</b>	<b>33.9</b>	<b>60.2</b>	<b>68.6</b>	<b>63.5</b>	<b>24.4</b>
		Lower Quartile	2.22	0.41	1.17	1.86	1.82	2.11	**	2.9	29.6	72.8	92.6	100.6	92.1	38.3
Furniture, Installment	122	Upper Quartile	7.13	5.50	11.81	15.13	2.85	3.24	19	8.1	3.8	15.5	44.7	23.1	53.5	10.1
		<b>MEDIAN</b>	<b>3.84</b>	<b>3.09</b>	<b>5.52</b>	<b>5.74</b>	<b>1.82</b>	<b>1.96</b>	<b>177</b>	<b>5.9</b>	<b>13.1</b>	<b>34.5</b>	<b>70.0</b>	<b>38.2</b>	<b>92.5</b>	<b>19.3</b>
		Lower Quartile	2.44	1.12	2.25	3.70	1.32	1.45	239	3.9	28.2	59.8	101.1	54.2	162.1	32.6
Groceries and Meats, Independent	56	Upper Quartile	2.86	1.77	21.06	45.62	13.37	44.25	**	23.0	36.4	26.3	52.2	81.4	52.7	19.5
		<b>MEDIAN</b>	<b>1.76</b>	<b>1.25</b>	<b>11.31</b>	<b>27.19</b>	<b>10.45</b>	<b>22.45</b>	<b>**</b>	<b>14.0</b>	<b>63.3</b>	<b>58.7</b>	<b>97.8</b>	<b>133.7</b>	<b>88.3</b>	<b>46.7</b>
		Lower Quartile	1.32	0.59	5.98	14.85	7.09	13.20	**	12.6	87.8	88.9	127.6	221.6	126.7	84.5
Hardware	45	Upper Quartile	8.91	2.82	8.83	10.97	3.16	5.01	**	5.5	4.9	9.4	33.2	60.7	20.1	6.9
		<b>MEDIAN</b>	<b>4.50</b>	<b>1.69</b>	<b>4.25</b>	<b>5.99</b>	<b>2.40</b>	<b>3.56</b>	<b>**</b>	<b>4.0</b>	<b>10.3</b>	<b>23.8</b>	<b>51.9</b>	<b>76.8</b>	<b>39.8</b>	<b>26.6</b>
		Lower Quartile	2.70	0.80	2.07	2.85	1.61	2.35	**	3.2	30.0	37.2	105.9	111.2	57.3	49.7
Lumber and Building Materials	128	Upper Quartile	5.16	3.15	9.98	12.42	4.18	5.65	35	8.7	14.5	16.2	42.9	55.3	39.1	10.9
		<b>MEDIAN</b>	<b>3.02</b>	<b>1.65</b>	<b>5.50</b>	<b>7.85</b>	<b>3.10</b>	<b>4.24</b>	<b>53</b>	<b>5.7</b>	<b>22.8</b>	<b>34.5</b>	<b>70.9</b>	<b>76.4</b>	<b>70.1</b>	<b>21.9</b>
		Lower Quartile	2.08	0.70	1.95	3.03	2.17	3.00	70	3.9	34.7	65.6	101.1	97.0	109.7	43.6
Shoes	84	Upper Quartile	4.36	4.21	12.48	20.90	4.53	7.71	**	5.4	6.0	25.0	39.2	89.0	33.5	9.6
		<b>MEDIAN</b>	<b>2.80</b>	<b>1.83</b>	<b>5.96</b>	<b>8.95</b>	<b>3.46</b>	<b>4.12</b>	<b>**</b>	<b>3.6</b>	<b>15.4</b>	<b>38.9</b>	<b>74.8</b>	<b>122.2</b>	<b>49.8</b>	<b>27.1</b>
		Lower Quartile	1.87	1.00	2.21	4.59	2.24	3.12	**	2.7	31.8	67.8	104.7	154.6	75.8	47.4
Women's Specialty Shops	198	Upper Quartile	4.20	6.09	14.17	24.10	4.78	7.64	**	10.2	10.3	20.4	52.4	43.9	54.8	10.1
		<b>MEDIAN</b>	<b>2.52</b>	<b>2.34</b>	<b>7.17</b>	<b>12.62</b>	<b>2.97</b>	<b>4.95</b>	<b>**</b>	<b>7.0</b>	<b>23.3</b>	<b>21.2</b>	<b>79.1</b>	<b>72.4</b>	<b>110.1</b>	<b>30.4</b>
		Lower Quartile	1.83	0.44	1.30	2.59	2.21	3.21	**	5.1	44.6	75.6	129.4	107.2	147.2	64.9
DEPARTMENT STORES—BY SIZE (TANGIBLE NET WORTH) CLASSES—MEDIAN ONLY																
Under \$200,000			4.15	2.47	7.08	8.93	3.31	3.80	**	4.3	21.3	27.4	89.9	83.5	45.4	33.4
\$200,000—\$500,000			3.90	1.67	4.84	5.69	2.73	4.03	**	5.5	20.8	21.6	55.6	72.3	51.9	27.7
Over \$500,000			3.30	1.98	5.83	8.97	2.76	4.03	**	7.0	29.6	29.7	57.8	59.7	76.4	24.7

\*Not computed; necessary information as to the division of sales between cash sales and credit sales was available in too few cases to obtain an average collection period usable as a broad guide.

## DEFINITIONS OF TERMS USED IN FOURTEEN IMPORTANT RATIOS

**THE RATIOS**—The data used are based upon a representative sampling with a tangible net worth which only occasionally is below \$50,000. . . . The center figure for each of the twelve lines is the median. The other two figures in each line are quartiles; for each ratio they indicate the upper and lower limits of the experiences of that half of the concerns whose ratios are nearest to the median. When any figures are listed in order according to their size, the median is the middle figure (same number of items from the top and the bottom) and the quartiles are the figures that are located one-quarter and three-quarters down the list.

**COLLECTION PERIOD**—The number of days that the total of trade accounts and notes receivable (including assigned accounts and discounted notes, if any) less reserves for bad debts, represents when compared with the annual net credit sales. Formula—divide the annual net credit sales by 365 days to obtain the average credit sales per day. Then divide the total of accounts and notes receivable (plus any discounted notes receivable) by the average credit sales per day to obtain the average collection period.

**CURRENT ASSETS**—Total of cash, accounts and notes receivable for the sales of merchandise in regular trade quarters less any reserves for bad debts, advances on merchandise, inventory

less any reserves, listed securities when not in excess of market, State and municipal bonds not in excess of market, and United States Government securities.

**CURRENT DEBT**—Total of all liabilities due within one year from statement date including current payments on serial notes, mortgages, debentures, or other funded debts. This item also includes current reserves such as gross reserves for Federal income and excess profit taxes, reserves for contingencies set up for specific purposes, but does not include reserves for depreciation.

**FIXED ASSETS**—The sum of the cost value of land and the depreciated book values of buildings, leasehold improvements, fixtures, furniture, machinery, tools and equipment.

**FUNDED DEBT**—Mortgages, bonds, debentures, gold notes, serial notes, or other obligations with maturity of more than one year from the statement date.

**INVENTORY**—The sum of raw material, material in process, and finished merchandise. It does not include supplies.

**NET PROFITS**—Profit after full depreciation on buildings, machinery, equipment, furniture, and other assets of a fixed nature; after reserves for Federal income and excess profit taxes; after reduction in the value of inventory to cost or market, whichever is lower, after charge-offs for bad debts;

after miscellaneous reserves and adjustments; but before dividends or withdrawals.

**NET SALES**—The dollar volume of business transacted for 365 days net after deductions for returns, allowances, and discounts from gross sales.

**NET SALES TO INVENTORY**—The quotient obtained by dividing the annual net sales by the statement inventory. This quotient does not represent the actual physical turnover which would be determined by reducing the annual net sales to the cost of goods sold, and then dividing the resulting figure by the statement inventory.

**NET WORKING CAPITAL**—The excess of the current assets over the current debt.

**TANGIBLE NET WORTH**—The sum of all outstanding preferred or preference stocks (if any) and outstanding common stocks, surplus, and undivided profits, less any intangible items in the assets, such as goodwill, trade-marks, patents, copyrights, leaseholds, mailing list, treasury stock, organization expenses, and underwriting discounts and expenses.

**TURNOVER OF TANGIBLE NET WORTH**—The quotient obtained by dividing annual net sales by tangible net worth.

**TURNOVER OF NET WORKING CAPITAL**—The quotient obtained by dividing annual net sales by net working capital.





## General Manager Jones

# WHY DID HE QUIT?

ALFRED G. LARKE  
Employer Relations Editor



*A want ad may be enough to push the man who has become dissatisfied with his present position into resigning. One such man has given the reasons for his leaving and, in so doing, he provided a list of twelve points that represented the thorns in his side. Aside from being an interesting discussion of only one side of the matter, there may be some basis for very constructive thinking beneath the bias and badinage that is so apparent on these pages. Obviously, the names appearing here are fictitious.*

THERE is probably only one way that a man can quit a good executive job without setting off a wave of rumors in his wake, and that is to drop dead in a public place where everyone can see that there is no stiletto sunk between his shoulder blades.

Otherwise, there will be endless speculation—vertically within his company and horizontally among his like—on the old question, "Was he shoved or did he jump?" and on the intriguing sub-topic, "Why?"

There is a very good reason for everyone's taking it for granted that there is an "inside story" and gossiping around to find out what it is. The reason is that there usually is an inside story, and the closer any individual can come to the truth of it, the better prepared he is to deal with a similar situation if it comes up some day in the course of his own career.

No one in good health and a state of mental equilibrium quits a good management position for no reason at all. If he leaves, he leaves because something doesn't fit. What doesn't fit and what it doesn't fit are the inside story.

Sometimes the man's reason for stepping out is something pure and simple, like the offer of a job that pays so very much more than his present position, or promises opportunities so much greater, that he feels unable to reject it; anybody in his spot, no doubt, would make the jump, too.

But even in this kind of situation, unless he is moving from presidency of a peanut stand to vice presidency of a big merchandising corporation, two questions are legitimately asked:

1. Is he too much of a young-man-in-a-hurry, overlooking long-term prospects and possibilities in favor of the quick buck or the fancy title?

2. On the other hand, is the company that is losing him sacrificing its future leadership just to save a few thousand dollars now or to shield its older executives from the disquieting competition of up-and-comers?

There are a lot of different kinds of misfitting, of course. Company or man may discover, after he has been in harness for a while, that his talents do not fit the tasks to which he has been assigned, and other jobs, more fitting, may not be available. The individual's picture of himself—his subjective opinion of his own talents—may be completely unrealistic, out of step with the facts. Temperaments of people who must get along together if the company is to prosper may be so mismatched as to make it necessary for one or more executives to divorce themselves or be divorced from the company.

There is no holy writ that tells us in advance what is right and what is wrong in any given instance of misfitting, and there is no supreme court that will decide the issue after the event. That is what makes any executive "quit" a matter of such unending and interesting discussion. Nobody can prove he has the right answer, and anyone's opinion is as good as he thinks it is no matter what others may believe.

The most interesting opinions, sometimes, are those of the men on the move about whom everyone else is conjecturing, or of their close friends who know something about it.

Here is the description, by a close acquaintance, of the experience of one executive now happily employed after leaving a position as general manager of a \$10 million a year division of a \$60 million a year manufacturing company. It was submitted in the form of 12 hints on "How to Lose a Good Man," and if you detect a taste of the rind, you're probably right—he and his friends are a bit on the bitter side.

Jones has resigned, the acquaintance's description of the case begins; for 12 years he has been with the Easton-Weston Company—all names, of course, are fictitious. He is one of those men who can do practically anything. He has run the research department and managed plants; he has sold in the field and been a general sales manager; and for the past three years he has been general manager of a division.

Men who work for him appear to think he is tops. He makes decisions, delegates authority, pushes projects through to completion, and reports only to the president of the company. He is the highest paid man in the company with the exception of the board members.

Once, before he finally quit, he turned in a resignation to accept an offer at \$10,000 a year more than he was earning at Easton-Weston. The chairman of the board was disturbed, stepped in, and persuaded him to stay with a raise of \$5,000—he would have been ahead \$5,000 a year if he had left at that point.

He is 40 years old, has a wife and three children, and is established in the community. Yet here is his resignation (the final one) backing up the oral notice he gave.

Again the chairman of the board is upset. "George," he says to the president, "why are we losing this man?" George says he doesn't know and goes to the vice president who has worked closely with Jones for several years.

"Tom," he asks, "why did we lose this man?" Tom knows part of the reason, but he knows George won't want to hear it, so he brushes it off as "just one of those things." Jones, he tells the president, is ambitious; George is too young to make it possible for Jones to aspire to the presidency for a great many years. Jones got a whale of a good offer and took it. What could be more natural? By the time Tom has convinced George that this is what really happened, he believes it himself.

Actually (continues Jones's friend), the management of Easton-Weston brought about this situation by pursuing a dozen different methods of dealing with an executive that are practically guaranteed to make a really good man dissatisfied enough to begin looking about for a new connection. They are ingenious methods because they won't work on the run-of-the-mill man who is satisfied just to have a job and hold onto it. He will stay anyway. The techniques used in this case lose only the man with principles who makes his own security by being a good man and doing a good job. Here they are:

**1. Start off by paying him less than an incompetent predecessor.**

One of the simplest ways of sowing seeds of dissatisfaction and doubt is to have your man find out early in his career with the company that he is being paid \$800 a month to do a job in which he has just replaced a man who couldn't handle it but was making \$1,000.

Whether the facts happen to be true or not will make no difference in their effects on the man so long as he is not given any information that may cause him to doubt them. If they're not true, an effort should be made to conceal this from him. If they are true, he will probably discover it for himself and then wonder why he was never told.

When he discovers the sad facts and asks for an explanation, one should be given him. It might go something like: "Yes, we know that the man before you was incompetent, but we feel that the lower salary is appropriate until you have proved your own abilities." With the proper inflections this can easily convey the impression that you believe he may turn out to be even more incompetent than his predecessor.

Another approach in the same situation is to say that the job itself has been changed and is of less importance with fewer responsibilities than before. Here again, the proper expressions can make him feel that the change was made because the company believed he was incapable of assuming the full responsibilities of the job for which he was originally hired.

**2. Keep him in the same field even after he has licked the job and even though he asks for a change.**

Ignoring his interests in other areas of the company or his desire to advance to jobs of more importance and responsibility is a form of torture that is usually very successful. In its most refined form it consists of more than just not giving him a transfer—it involves not even giving him an answer.

Of course, there may be a very real necessity for keeping him where he is. But if he doesn't know this and no one listens to his ideas on how to do the job or what he wants to do, he will very likely wind up not caring too much about what the company does or what it wants him to do.

**3. Try giving him a promotion that he can't afford to take.**

For instance, transfer him to an area which involves a higher cost of living at no increase in pay. The effect can sometimes be compounded if commissions are involved and a plan is worked out whereby his net income is reduced by the move.

A promotion alone does not always mean that the man must move, but there are countless ways to make a promotion more costly than any accompanying salary increase could possibly offset.

**4. Give him a bonus, if hard pressed, but let him know you think he doesn't deserve it.**

It might be accompanied by a letter saying something like: "You should have done better, but we are giving you this anyway." Those who "should have done better" will feel that this is right decent of the company.

The impression can be extended and multiplied if the message is delivered orally before some of his co-workers. To go one step farther—and save money besides—his bonus might be withheld entirely with an oral explanation given in front of some of his subordinates.

The principal difficulty in the withholding of a bonus under these circumstances is that it does not give the company an opportunity to show its paternalism or to introduce the idea of unfair or unequal treatment. Giving a man something and saying that he doesn't deserve



The explanations that others may give, and the reasons they conjure up, may satisfy the top executive who wants to know why a promising young man left, but they often fall far short of covering the real reasons that lie behind the letter of resignation.

it can go a long way in building up the belief that the company is just as likely to pass by the man who does deserve something. There are few things that can provide a sounder basis for distrust.

**5. When he looks for guidance, give him a wishy-washy company policy to go by.**

This works best when there is no written statement of policy for the company because written statements usually succeed in eliminating the flexibility so essential here. Besides, the lack of a written statement forces the man to act on oral reports that can be easily amended, repealed, misunderstood, or denied.

Even more effective, don't set any policy at all; this saves the trouble of thinking out problems and helps to edge the harassed executive toward the door. The total absence of any policy allows the company complete freedom to condemn any action he may take as well as to blame him for not taking action. Questions about policy should be answered in terms of vague generalities and any suggested course of action should be sanctioned only by tacit agreement.

**6. As a sequel, let him down when he's in a tough spot.**

If he is fighting a bad labor situation, back him up vigorously, until you see it means a strike. Then pull the rug out from under him: reverse his decision or drop some of his terms. Or, if he is handling an unfair personnel or customer complaint, urge him not to back down—until the matter has gone to the president.

It is usually difficult to apply this technique more than a few times with any one man and so it is essential that it be worked for all it's worth. This means giving wholehearted support right up to the denouement. To express any doubt or uncertainty about his actions prior to that time may weaken the demoralizing effects that can be achieved. The man will seldom offer the company a second chance to do this, but with a well-planned campaign a second chance is seldom necessary.

There are many kinds of situations to which this can be applied, but it is often best to reserve it for occasions that are especially important to the individual. These will be the times when he feels that his work cannot help but be recognized and his efforts rewarded. In addition to crushing his hopes and provoking his anger, it will humiliate him in the eyes of his associates.

**7. Give him a job beneath his capabilities.**

Making him assistant to an older man who knows less about the job than he does is a real help in this connection. You might also try explaining to him that he is young and has plenty of time (which really means that he is young and you have plenty of time, or think you have).

The converse approach which also works is to make him assistant to a much younger man who knows less about the job than he does. This

is often more difficult to explain. Not giving any explanation can produce a high degree of dissatisfaction, but even more can be attained by saying that the younger man is only there temporarily and will soon be promoted to a higher position. Not only does this have an immediate reaction, but it is a sure way to develop the "slow burn" as time passes with no change being made.

Actually, the role of the superior is of secondary importance here. The primary concern should be to see that the man is assigned work that does not rise above the level of that being done by those who are below him on the rungs of the management ladder.

**8. Give him a superior he can't respect.**

Put him under a man who plays yes-man to his superior. Or give him a boss who switches sides in executive meetings and leaves him to battle through an idea on his own. The man who drinks too much on trips, whose concern for the Seventh Commandment is only academic, or the man who has others' reports come out over his name—all these will fill the bill.

No man can be consistently perfect in the part of a superior, but the reference here is to the man who is chronically unfit to command respect rather than to the man whose occasional lapses can be overlooked. Such an individual places a double burden on those under him: besides working for someone they can't respect, they often must take on an extra job of filling in for his deficiencies.

**9. Move him frequently with no concern for his family.**

This becomes especially effective if he has school-age children and you can require the moves to be made during the school term. Other variations of this same theme involve moving him during his normal vacation period or just before Christmas. The problems this can create may be further aggravated by giving him as short an advance notice as possible.

There are numerous other gimmicks that can be introduced without too much additional effort. Most of these are basically financial and involve devices that place most or all of the cost of moving on the man rather than the company. The classic squeeze play, of course, is to maneuver him into buying a new house while he is unable to sell his old one.

The combination of numerous moves plus a difficulty in finding a satisfactory home can succeed in keeping the members of the family separated for fairly long periods. While this is no guarantee that the family will break up, it is a good way to smash morale.

**10. Keep him on out-of-town assignments for long periods at a time.**

This won't work if he isn't getting along with his wife. But if he is, it pays off double by motivating his wife as well as him to get him out of your employ and into someone else's. Of course, he must not be permitted to take his wife with him on these trips.

Such assignments also provide a wonderful

opportunity to worry him with a stream of queries covering everything from expense accounts to detailed reports on his out-of-town activities. It is especially rewarding if the queries are put in terms that suggest you do not believe what he has reported and have little intention of believing what he will report.

**11. Constantly sell him a bill of goods, but be sure to keep it oral.**

The advantage of the oral agreement is that one can always claim later to have been misunderstood. Under these circumstances, you can promise him anything to get him into a tough situation. Since there is no intention of keeping the promises, one should guard against the danger of making them so extravagant that the bad intentions clearly show through. This plan simply won't work if you make him promises he knows you can't keep.

On the other hand, you must guard against under-selling. This results in small irritations that may eventually be effective but require a considerable time during which he may develop immunity to them.

**12. When he is finally convinced he has had enough and quits, convince him that he did the right thing.**

There are several ways of going about this. First, you can word the announcement of his leaving so that it implies (without actually saying) that he was fired. Second, and just as good, is an announcement filled with glowing praise for the man who is assuming the job and terminated with something to the effect that, "This means John Jones will no longer be with us."

Another way of putting a little frosting on the cake is to try to avoid paying amounts that may be due the resigned man, or at least dragging heels on the payments. There can be delay in repayment of his portion of voluntary savings funds or, if the policy has not been clear, neglect to pay accrued vacation pay. A niggling variant on the latter is to pay 2/52 of a year's pay where half a month's check has been customary.

If the man has been careless enough to resign at the end of a year when a bonus has been earned but not yet paid, it may be possible to avoid paying it entirely. Or, if that might arouse concern among other executives because the departing executive has done an outstanding job, perhaps a token payment of one-quarter or one-half the intended bonus might suffice.

Here, then are the basic reasons for leaving which have been suggested by the saga of John Jones. They have been presented from the point of view of one who feels that these were brought to bear on him. As with most stories there is probably another side which has not been brought out. Your own experience may provide some clues to this other side. If it does, you will find that, like Frank Stockton's *The Lady or the Tiger?*, this story ends with a question. From your own experience you may also find the answer to that question:

"Was he shoved or did he jump? and why?"





## WHO SPEAKS FOR YOUR COMPANY—AND WHY?

D. WEBSTER BURKE

*D. Webster Burke is the pseudonym of a public relations director who has booked many speakers, spoken himself at many conventions, dinners, and clubs, presided at meetings, and trained hundreds of neophytes in the use of the spoken word. The "D" in D. Webster Burke stands modestly for Demosthenes. Webster and Burke are subtle references to other purveyors of eloquence. In this article the writer examines the relationship of company management to the men and women who meet the public in the commanding position of a speaker. Policies may vary by the nature of the trade or industry, but the subject is as important as it can be embarrassing.*

THE Nonferrous Metals Association is having a convention in Chicago in 60 days. The secretary writes to you as president of Copper-Alloy Fabricators and asks for a speaker. How do you handle the request—personally, through public relations, advertising, or sales? The typical medium-to-large manufacturer gets many requests to supply speakers during the year—some he welcomes as a promotional opportunity, some he would like to avoid but can't. Others represent social, educational, and general community obligations which must be accepted or declined, and all imply some problems in public relations policy.

When Rotary, Kiwanis, Lions, Exchange, or Chamber of Commerce chairmen call or write, you may want to be helpful, but you scratch your head and ask, "Who can handle the assignment?" When the PTA, the church club, the

local radio or TV station asks for a company representative to speak for the company, whom do you send? There is no easy answer, and no well established pattern to follow.

The "line" management men generally sidestep the rostrum, the lectern, the dais, and try to concentrate on the technical meetings, the trade discussions, and occasionally a convention. They shunt off to "staff" management the policy interpreting meetings, the community good-will discussions, and all the nuisance assignments that continually plague the officers of a company under circumstances both favorable and unfavorable. Most of these problems fall into the hands of public relations executives.

There used to be a half-truth distinction between publicity and public relations which stated that publicity is what you get in the papers and public relations is what you keep out, but such

a cynical definition is too simple to be accurate. Public relations is many things, but most of all it is people—men and women who stand up in a showroom or on a platform and create an impression of a company attitude. Therefore, the first problem in considering "Who speaks for your company?" is the choice of the department and man who will interpret company policy.

Even before he is appointed, the president and the board of directors might ask, "Is there a well-defined company policy, and has it ever been reduced to writing?" Tradition is a spongy ground upon which to build policy. Tradition is sometimes a mixture of fact and fiction which is likely to confuse or disillusion young men or women selected to be cheer leaders in public.

The well-balanced speakers' program calls for men who can interpret industrial relations with a sense of realism and restraint; who can handle public relations without acting like appointed evangelists of the company and the whole capitalistic and competitive system; who can go to a convention and stick to the subject on the program and answer technical questions on materials, methods, and distribution with a sense of authority; and come back without a hangover.

Those are the big assignments and they must be given to men of experience and authority. But not all management men are well equipped for speaking to groups. Many avoid, sidestep, or flatly refuse to get up and talk, even when the stakes are big. Then there are always a few too eager to talk, and they not only invite the gavel but may damage the cause, service, or product they support.

There are always invitations and opportunities of value to a company—often too many for the top executives available. Can management take a chance on the men crowding the executive rungs? Here is where the best speakers and potential executives are developed, but how do you recognize the lads with talent? When you do, can you afford to take the risk and send them on a man's errand. Usually, you can, and with better results than those achieved by weary or burdened seniors.

Few men are hired for their equipment as public speakers, and production executives will tell the public relations man who is trying to find a suitable choice, "Jones was hired as an engineer, not as an orator." Another implies that speaking chores give the youngsters a swelled head, and take their mind off the job for which they are primarily employed. The subject has many ramifications, but the bald fact is that the management that sidesteps the opportunity to tell its story loses an opportunity to keep astride of alert competitors. What procedure then should be followed to define policy, to establish a center of information, to place responsibility for a speakers' bureau, to select and instruct representatives, to weigh benefits of the individual performance and the over-all publicity impact, to reward men who are bringing credit to the company? Let us begin with the top management responsibility.

The spokesman for any enterprise is the leader, and the responsible leader of a corporation is the president. However, he cannot be expected to accept personally every time an invitation is extended. He has a right to be selective in his choice of invitations. It is obvious that he must suggest a substitute in many instances where the company should be represented. If a typical company president accepts four or five speaking assignments a year where the subject or the occasion requires careful preparation, then he is carrying a fair share of the executive load.

If he passes on assignments to an executive vice-president, or staff economist, or a plant manager, or a sales manager, then they should be as familiar with company policy as the president. This is achieved in many ways—regular weekly or monthly discussions, supervisory letters or bulletins, but best of all, through a written definition of company policy as it deals with every subject involving discussion and interpretation, including community subjects such as wages, pensions, charities; competitive topics such as prices, guarantees, credit discounts; and inter-industry relations such as trade memberships, research information interchange, or joint publicity programs. Once these policy items are clarified in text, any intelligent and fluent-tongued executive can prepare for his task.

The well-trained policy man, whether president or pinch-hitter, usually knows enough to stick to the subject assigned, cover it clearly in the allotted time, and sit down. He also knows the little graces and courtesies that belong to public speaking. He addresses the chair, spends

very little time on the amenities with the audience, and gets down to a logical presentation of the facts. He gets his facts straight, his statistics accurate, and his arguments in order.

When a trade association or convention secretary wants a speaker the query can come in many ways. One good speech leads to another. The invitation may come by letter to the individual or by phone, or it may be addressed to president or director of public relations. It is good company policy to channel and screen all invitations to speak at one place and under a single authority. The responsible executive can determine (1) whether the occasion is worthy



There is no substitute for preparation. It starts with notes made in moments of meditation. It continues with research, writing, rewriting, and reading. It ends only when the speaker rises to face the audience.

of the effort, (2) whether a speaker is available, and (3) at what level of prestige or authority he should be chosen. It is apparent that all demands upon a popular figure in a company cannot be met. The man who screens the invitations must measure value for value in making the decision to accept or decline.

The experienced speaker with a skilled secretary knows how to prepare for his assignment. There are many ways to ease the burden of a speaker in helping him prepare his speech. The public library, the business library, or the company librarian has access to facts and statistics. The next best thing to knowing the correct answer is the ability to ask the right question. The organization of a good speech comes with training in asking right questions from people who know where to get the right answers.

Many concerns with a public relations department make it a practise to assemble background material for speakers, with easily assembled or digested paragraphs which can be interlarded or interwoven in the speech. Some concerns will prepare a complete text for a speaker or call on an outside advertising agency or public relations specialist to prepare the complete text—with and sometimes without the co-operation of the speaker. "Ghosting" talks is an acceptable device of modern business and politics, yet there is nothing so belittling to a speaker's pride than the slavish reading of an unfamiliar text.

On one occasion, the head of a large municipal department appeared in the place of the mayor who was delayed by official business, and he read a prepared speech with considerable grace and with familiarity with the text. The mayor arrived afterward, apologized for his unexpected arrival at a late hour, and promptly repeated verbatim the speech offered by his subordinate who writhed in a seat on the dais. Both scripts had been prepared by the mayor's publicity aide, and too many copies were in circulation.

Busy executives need help from "ghosts", but the acceptable speech is usually the result of one or more conferences, a meeting of the minds on

ideas, and a serious attempt by the writer to reflect in idiomatic phraseology the opinions and convictions of the speaker. One hurried speaker who was handicapped by a foreign accent didn't follow this method and mispronounced the word "stamina" placing the accent on the second syllable. He was embarrassed when the audience laughed. Later he admonished his "ghost" by saying, "Don't you put words in my mouth I can't pronounce."

The age of eloquence isn't past, but the style of speaking has been streamlined to eliminate bombast and highfalutin rhetoric. The brass-tacks school of oratory often lacks the finesse of polite speech, but it is to be preferred to the school of ornate verbiage which clutters up a simple statement with gingerbread vocabulary. Business men are less likely to offend with the pomp of a Senator Claghorn. They do offend occasionally by their ignorance of correct speaking custom, platform deportment, and knowledge of simple parliamentary procedure.

There is no one way to make a speech. Some men study hard on facts and work with a few notes on a card. Some memorize substantial areas of the speech and ad lib on the rest. Some read most of their speech with such freedom of expression, with proper pause, and self-interruption that the manuscript is never noticed or considered by the audience. Others read the manuscript with a monotonous drone that distresses the

# RCA VICTOR'S "SKIPPER"

*gets around  
in plastic  
cabinet by  
General American*

**record sales charted for  
new portable electronic  
radio-phonograph**



plastics division

**GENERAL AMERICAN TRANSPORTATION CORPORATION**

135 South La Salle Street • Chicago 90, Illinois

*Facilities unmatched anywhere: injection, compression, extruding and vacuum forming, reinforced plastics, painting and assembling.*



*Model 6BY4—  
Battery-operated  
Portable Radio  
"Victrola"® Phono-  
graph Combination.*

RCA Victor's new "Skipper" radio "Victrola"® phono combination is ringing up sweet music for RCA Victor dealers. Much of its "buy-appeal" is due to its handsome two-tone cabinet of tough high-impact polystyrene— injection-molded by General American's Plastics Division.

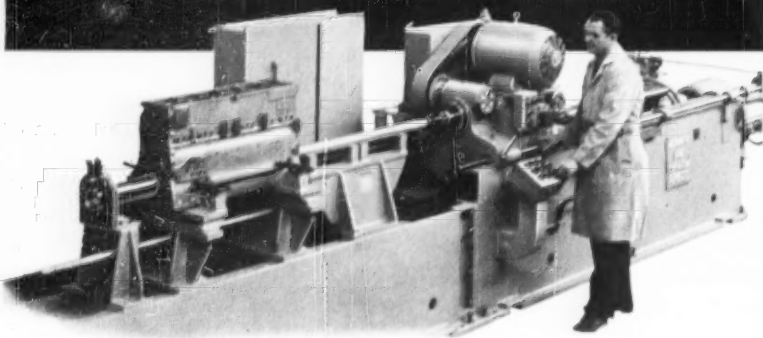
This custom-molded case is built to take the rough handling a portable gets. Light in weight and with color molded in, it is highly resistant to moisture. These are important and attractive sales advantages available at no extra cost in custom-molded plastics.

Is there an application where the use of molded plastics might improve your production or product? Can you too, benefit from the creative research that only General American offers? Call or write our Plastics Division today.

**It Pays To Plan Your Product In Plastics Molded by General American**



# WHY CUMMINS main bearings are MICROHONED

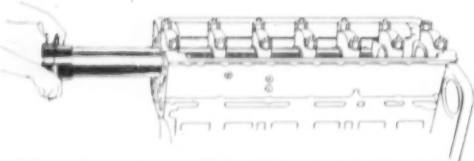


"Cummins diesel engines have a world-wide reputation for dependable, low-cost power. Here at Cummins, we attribute the wide acceptance of our engines to constant searching for better processing methods and improved engine performance.

"For example, if our crankshaft main bearings were undercut at the ends, tapered or out-of-round, then the full load of the journals would be borne by relatively small areas. This would cause bearing inserts to overheat and quickly break down. Also, should the bearings be misaligned, the crankshaft would flex during rotation and cause fatigue failure.

"However, by Microhoning our main bearings we secure round, accurately-sized and aligned bores. Cummins is the first diesel manufacturer to Microhone its main bearings. The surfaces of Microhoned bearings are clean-cut, free of deformed metal and the finish is consistent in every bore. In addition, the consistent accuracy generated by Microhoning permits us to make faster set-ups and use higher cutting feeds on preceding boring operations—Microhoning automatically corrects all inaccuracies.

"After Microhoning, all main bearing bores are checked with a gage plug 44 inches long and .0007 inch under required bore size. Gage must have a simultaneous slip-fit through all bores in the block. Tolerance for roundness is less than .0002 inch and finish is held to the specified 55 microinches."



Learn how Microhoning will give you efficient stock removal, closer tolerances, accurate alignment and functional surfaces.

- ☐ Please have a Micromatic Field Engineer call.  
☐ Please send Micromatic literature and case histories.

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_

STATE \_\_\_\_\_

## MICROMATIC HONE CORP.

8100-SCHOOLCRAFT AVENUE • DETROIT 38, MICHIGAN



listener, and reflects inept approach of the speaker to people before him.

A good speaker is always in command of his audience. He commands with his eye as well as his voice, and he knows at once by the audience attitude when he is losing his superior position. There is no substitute for preparation, and preparing begins with the notes that are set down in the moments of meditation on the subject. It continues with writing, rewriting, and assembly of the notes in a logical order. It continues only with many readings of the talk as the text is trimmed and strengthened. Preparation ends only when the speaker rises to face his audience, confident of meeting any emergency from lost notes to a sudden heckler in the gallery.

### A Place for Comedy

It's a poor speech that is only remembered for the good jokes in the text. The funny story calls for great skill in telling, and a flawless sense of timing. We are often surprised and chagrined when we repeat a joke told by Jack Benny, the late Fred Allen, or Red Skelton and get only a raised eyebrow in response.

It's a good speech that makes its point without a funny story, and it's a better speech when it can be illustrated with case histories that sharpen the point, and shorten the discussion. Good case histories are a form of speech economy. But the case must be relative and applicable to the premise and not of personal vanity in action.

A speaker with a sense of humor knows how to curb the impulse to show off his cleverness. Never be "as funny as I can" Oliver Wendell Holmes reminds us in his poem *The Height of the Ridiculous*. Agility in argument, resourcefulness under attack, humor in fending off the bitter shaft are all signs of the seasoned speaker. Memory is a fickle servant of the speaker and important quotations or statistics should be written out. When memory is faithful, it comes to the aid of a disputant with the required name, date, or fact. When it plays him false, the result can be painful.

Augustus Thomas, a noted playwright of an earlier generation, was a nimble speaker with ready phrase, apt retort, and boomerang wit, but a tricky memory sometimes left

him staring into a vacuum. When this occurred, Thomas would say, "Hold onto that idea for a few moments. We will hang it on a hook right there." And he would make the motion of putting the lost idea on an invisible hook. He would go along with another idea, but when the curtain lifted again in a few minutes he would say, "Now, let's take down that idea and examine it again," going through the motion of removing it from its aerial hook. Many people admired this device but never knew the chagrin it covered during the mental lapse.

Every college, high school, Y.M.C.A., social and business club has its public speaking course. Self-expression is a necessity to the business man and a morale builder to any mature person. The most important step that many a young executive makes is his first step up the 8-inch rise of the portable platform used in most speaking courses. It lifts him above his audience and gives him for the first time the combined feeling of fear and triumph that is a part of the original wrestling match with nervousness and mental confusion.

### Speech Training

Each company, having individual requirements and problems, adopts different speech training policies. Many send their younger executives and supervisory staff to a school or instructor and pay for the training. Some prefer to bring the instructor into the office or factory. Most employ the professional teacher, although a skilled and experienced senior in public relations or personnel may have a keener aptitude in dealing with the men and their problems.

At times the demands for a speaker may result in the inexperienced sales executive or departmental supervisor being pushed into the verbal battle without adequate seasoning. Such premature assignments are a mistake even when successful. The emergency or haphazard selection usually discourages both the speaker and the audience.

Speech training should cover the fundamentals which include these general categories:

1. Exercise in disciplined thinking. This means an orderly approach to the subject. It asks the speaker to define his topic, to fence

in the ideas to be discussed within the time limit, to learn how to research a topic, and to place arguments in a logical sequence.

2. Practise in speech writing. No man knows how much he comprehends about a topic until he puts it all down on paper. One can be self-critical over the written word, and then better informed for the spoken word.

3. Exercise in manuscript reading, especially dealing with technical or detailed reports. Some speeches require precise statements of facts and statistics. Manuscript material can be read with effectiveness when the eye of the reader lifts and falls from the text but never loses command of the audience.

4. Impromptu speaking usually seems easy because the speaker has worked hard in recent or previous preparation. The impromptu speech needs ardent preparation.

5. Debates, panels, round table discussions exercise the mind and build up confidence. They must be included later in the training.

6. How to conduct a meeting. The success or failure of a meeting often depends on the skill or lack of it in a chairman. Several lessons are necessary here to give the student a primary grounding in the rules of order and the proper manner in which to present a speaker. A good chairman understands how to prepare an agenda, set up a time schedule, present guests, limit discussions, recognize questions from the floor, enforce or suspend rules. The chairman sets the pace for the meeting and the speakers usually follow his tempo.

#### A Positive Answer

To go back to the original question, "Who speaks for your company and why?" let us answer it positively with, "The man who speaks for our company is selected because he understands company policy, company product or service, and company responsibility to its customers, and the competitors, and the business community in general." Most companies who maintain a speakers' bureau prefer to have a number of skilled exponents of the spoken word on the first team, and a strong utility bench ready. The companies which rely on the strutter who loves the limelight soon learn that they have a circus horse who wears the trappings but does

not share in pulling on the traces.

Public speaking in the business and industrial field is a serious activity which costs money and must justify itself in results achieved. It isn't easy to measure results, but companies which keep records of speech assignments, audience comments, and correspondence are able to observe the effect on the executive himself as well as his usefulness to the company. The company soon learns where the cause of the company is best served. There is no profit for the speaker or for the company in the convention junkets where the business and social benefits are intangible and expensive.

#### Who Pays the Bills?

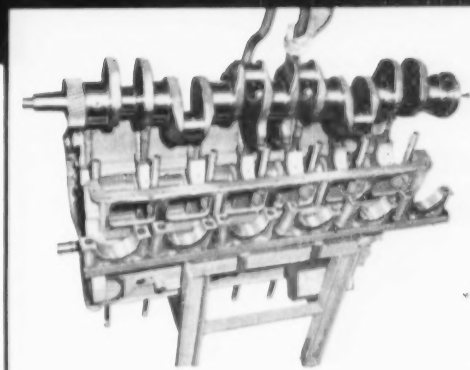
The question of expense for speaking assignments grows more significant in the testing of values as rail fares and hotel rates rise. Who should pay the expense tab? Larger companies have generally paid the bill, but the controller may grumble a bit when it costs \$200 to \$500 to send a speaker to a convention. Some companies are asking expense money and with justification. It is the mark of a well-run convention when the committee suggests the payment of expenses.

The question of the honorarium is not answered with any degree of uniformity. Some companies as a matter of policy instruct their speaking staff to refuse the honorarium. Others are indifferent to it, and some speakers who spend much time away from home expect the extra stipend and may even demand it. Where younger executives are called upon to take college speaking assignments of a technical nature they are often permitted to take the fee. There seems to be complete justification when services are beyond the sphere of daily duty.

Of course, there is always the dedicated man who has a streak of the evangelist or teacher in him and loves to talk; and usually does an effective job. He is a workhorse for the company rather than the circus horse and will take on the service club chore as quickly as the important convention invitation.

One thing is certain. No company can completely ignore the problem of handling invitations to speak. This is an age of aggressive salesmanship, and selling begins with the spoken word for the idea as well as for the product.

## HOW MICROHONING generates round, accurate, aligned bearing bores



All types of cylindrical surfaces, including small diameters and combinations of soft and hard metals . . . interrupted by keyways, undercuts, ports, reliefs or cross holes . . . can be economically Microhoned to precision tolerances and alignment.

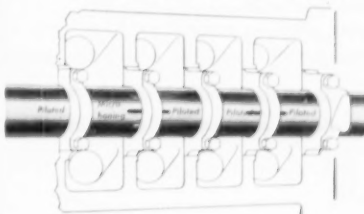
A typical example of Microhoning interrupted cylindrical surfaces is the Cummins Diesel Engine application. Here's how Microhoning generates accuracy and alignment in the crankshaft main bearing bores:



1. Cutting pressure is applied radially from the center of the Microhoning tool body. Abrasives and guides both are expanded by the same feed force, and wear at the same rate.

2. Abrading action is divorced from the effects of spindle or driveshaft vibration and misalignment by a universal joint that is between tool body and driveshaft.

3. The single bank of abrasives travels through all bores on every stroke. As abrasives are Microhoning one bore, the tool is piloted by the plastic guides in the other bores.



The principles and applications of Microhoning are thoroughly explained in a 16mm, 30-minute sound movie, "Progress in Precision". We'll be glad to reserve a print for your use.

- ☐ Please send me "Progress in Precision" in time for showing on \_\_\_\_\_ (date).
- ☐ Please send Microhoning literature; I am interested in the following application \_\_\_\_\_



NAME \_\_\_\_\_

TITLE \_\_\_\_\_

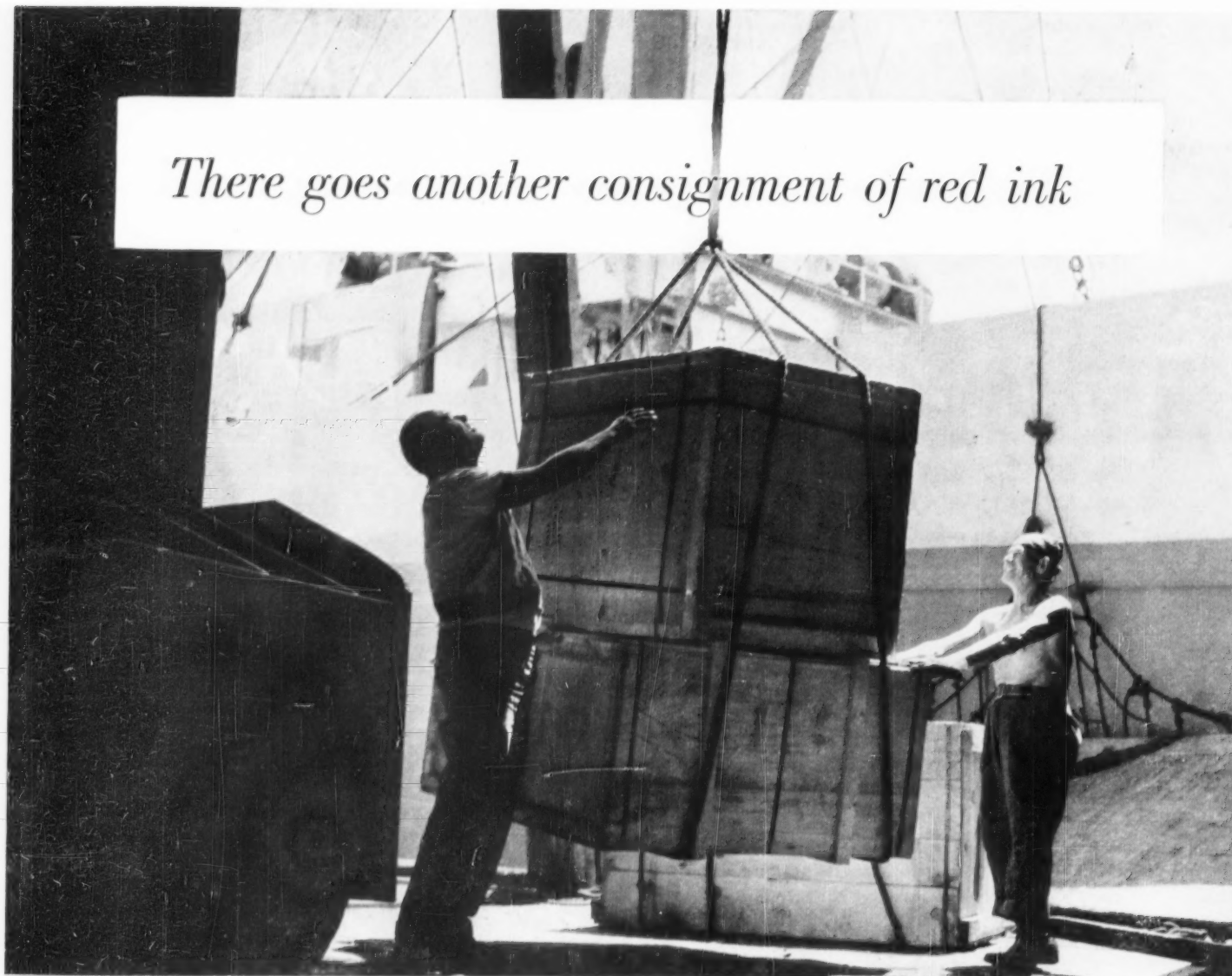
COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

**MICROMATIC HONE CORP.**  
8100 SCHOOLCRAFT AVENUE • DETROIT 38, MICHIGAN

*There goes another consignment of red ink*



The salesman spent a week in Bermuda on his commission. The front office rejoiced. But the company lost money.

What was wrong? Factory overhead.

This company has a plant-wide burden rate. All costs are based on it. In some departments, actual overhead is *less* than the standard rate. Profits are high. In others — notably those which turned out these babies — actual overhead *exceeds* the standard rate. Prices don't cover it. Profits are seldom if ever.

How different with the Keysort Plant Control

Plan! With PCP, the plant manager can pinpoint burden charges by *department* . . . and prices can be set to allow for profit in each operation. Because plant operating figures are reported *on time*, unrealistic overhead rates can be quickly spotted.

The Keysort Plant Control Plan can give you *fast, accurate* reports on every phase of factory operation. Whatever your size or set-up. At remarkably low cost. The nearby McBee man has a presentation which will show you how it's done. *It takes just one hour from start to finish*. Phone him, or write us.

# McBEE KEYSORT®

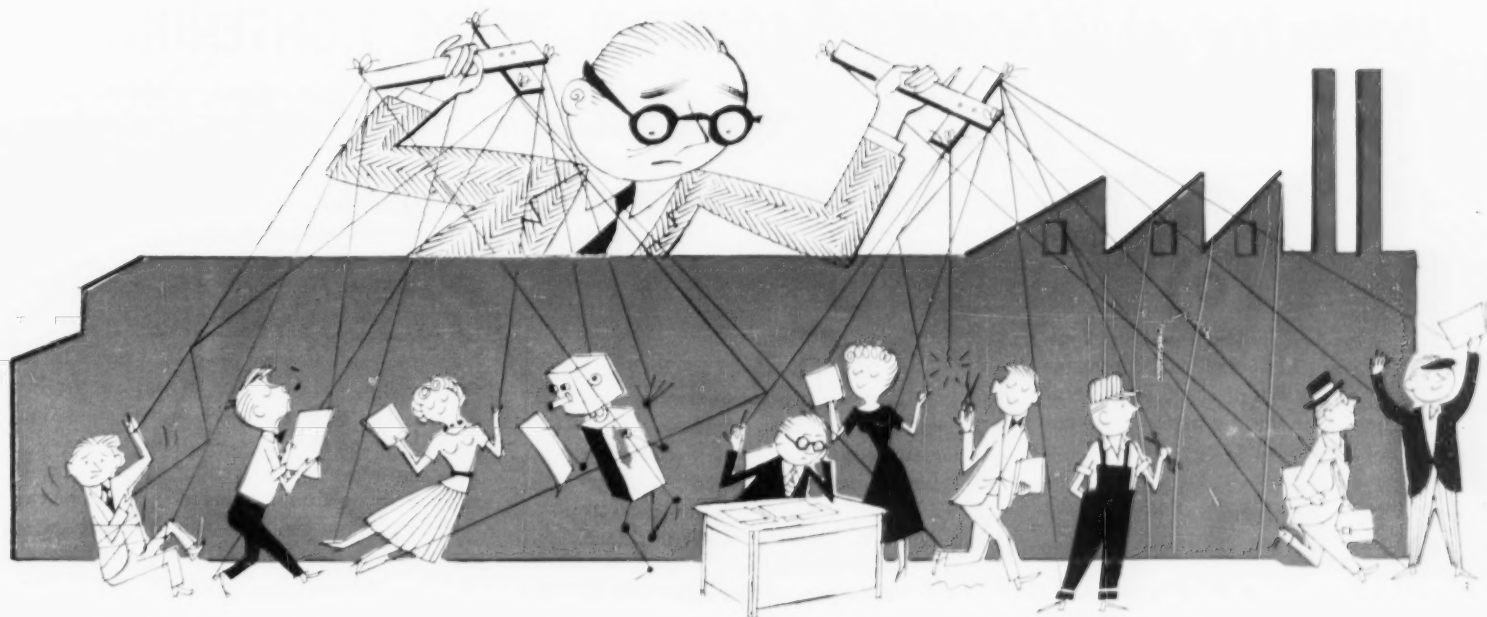
## Punched-card accounting for any business

Manufactured exclusively by The McBee Company, Athens, Ohio • Division of Royal McBee Corporation  
Offices in principal cities • In Canada: The McBee Company, Ltd., 179 Bartley Drive, Toronto 16, Ontario



TOP MANAGEMENT CONTROL

## Special Emphasis Feature



### BETTER CONTROLS . . . . FEWER SNAGS . . . . CLEARER COMMUNICATIONS

Companies are growing so fast, becoming so complex, that presidents are seeking better ways to control operations without being entangled in details.

## BETTER CONTROLS ARE COMING . . . HERE'S HOW & WHY

- 1 WHY TOP MANAGEMENT CONTROLS NEED TIGHTENING . . . . . 58  
Presidents are streamlining the procedures by which they keep track of what is happening to their companies as competition mounts.
- 2 ADMINISTRATIVE AUTOMATION BEGINS TO MOVE IN . . . . . 67  
The inside stories on how Sylvania Electric and other companies are improving top-management control.
- 3 NEW TOOLS WILL CHANGE THE PRESIDENT'S JOB . . . . . 87  
How electronic data processing and operations research will change the functions of top management in the years to come.
- 4 WHAT PRESIDENTS WANT IN THEIR CONTROL REPORTS . . . . . 96  
What are the key facts and how should you present them to get action from the president?
- 5 COMPUTERS CALL FOR COMMON SENSE . . . . . 98  
Here are some of the pitfalls to be avoided in re-working your information flow to top management.
- 6 DIAGNOSE YOUR OWN PROBLEMS . . . . . 101  
A detailed checklist of the things to be considered in strengthening top management control.
- 7 WHAT'S AHEAD IN DATA PROCESSING EQUIPMENT? . . . . . 110  
A quick round-up of what some manufacturers are planning to solve the information processing troubles of business.

## WHY TOP MANAGEMENT CONTROL NEEDS TIGHTENING

*The growth and complexity of modern industry  
are forcing presidents to seek new solutions.*

"THE basic problem with our company is just too much success." This pleasant plaint has been on the lips of corporation presidents from one end of the country to the other during the past few years. As one president put it, "our company has grown so big and complex that I just can't get my arms around it any longer."

In many companies the president has been removed more and more from direct contact with day-to-day operations. But his decisions must be based on the full fresh facts flowing from these detailed operations.

Diversification, mergers, and just plain expansion have produced these growing pains which are felt most acutely by top management. This key problem of top-level control, which is the real gauge by which top executives are measured, has led management during the past decade to seek many new solutions.

Decentralization shifts the process of decision-making down further in the organization, down to the level of actual authority. This may relieve the very top level of many details of daily operations and push problems down to the level where they are most quickly solved, but . . . And the "but" is a big one, for decentralization itself can be a trap unless top management develops very sensitive controls to co-ordinate divisions and to learn quickly where and when trouble spots are festering. Consequently, automatic data processing is a virtual necessity for a company which is considerably diversified.

*The articles in this Special Emphasis section were prepared for publication under the direction of senior editor Thomas Kenny of the Dun's Review and Modern Industry staff.*

—The Editor

Effective top management control no longer means restraint on middle management's freedom of action. It is coming to mean the speed and effectiveness by which trouble spots are detected before serious harm is done.

Says expert Peter Drucker: "You can't decentralize without very much better control of performance, very much better control of objectives, than most business have ever heard of. Decentralization means that you set up a unit autonomously in such a manner that it operates against standards, objectives, and goals rather than against supervision. The major problem is a control problem which very few business either understand or have the controls for."

So, ironically, decentralization which many companies embark upon to lift the burden on the top level can result in greater pressure on the top brass unless an effective control system is developed.

In addition, the burden on the president is also increased by other attempts to lighten his load. For example, such new developments as integrated data processing and operations research cut across departmental lines and treat the company as an organic whole. Consequently, the managers in charge of these functions usually report to a top executive—frequently the president—with the necessary over-all company viewpoint. Nevertheless, the gains from these new tools more than offset the slight extra burden.

Extensive staff systems have also developed to meet the problems of top-level control. In many companies—Corning Glass, Koppers, Monsanto, just to mention a few—presidents have broadened their staff groups to back up line management. These staff groups function not only at

top management but also at divisional and even plant level. In following policy laid down by top staff groups, they in turn strengthen the top-level control throughout the organization. Incidentally, some companies—Carrier Corporation, for example—avoid burdening the president by having all line groups report to an executive vice-president while the president concentrates on staff. In others—Gulf Oil and Johns-Manville, for instance—staff groups report to the board chairman while the president directs operating problems through the line executives.

In others, such as Detroit Edison and Socony Mobil, the problem of planning and control is diminished by cutting it into two parts. The company creates the new position of chief executive officer who handles long-range policy and planning and is one step above the president who handles day-to-day problems and co-ordinates his control of them with projected objectives.



*The real trouble with many companies is their success. They fast outgrow the simple controls set up for the small original outfit.*

Other companies try such unusual approaches as "management by committee" (see DR&MI July 1956, page 40). Not to shirk responsibility but rather to share information, a company is run by what amounts to departmental committees the head of each is a member of several others whose work is linked to his. All in turn report to a final or executive committee, usually composed of top management and headed by the president.

Consequently, decisions become group decisions and individual information becomes group information. This isn't really a bow in the direction of industrial democracy as some people think, but is really a determined effort to make complex and unwieldy information easier to handle.

Other companies—among them Du Pont, RCA, Westinghouse—are developing a new breed of executives,—organization planners—who are attempting to mould the very shape of the company to make top-level control more effective.

But perhaps the most spectacular development in the struggle for better top-level control is the new "control section." To understand how this new tool works, let's look at Koppers Company of Pittsburgh. The president, Fred Foy, of this diversified company has, in common with other corporate heads, these responsibilities:

To establish plans and future goals

To co-ordinate operations

To measure performance and take corrective action. As a company grows, a president needs staff help to fulfill his responsibilities. Koppers provides its president with help in the form of a five-man control section which reports directly to the president and acts as an auxiliary control arm of the president throughout the corporation.

It helps president Foy set plans and objectives by gathering together the detailed projections and plans of various divisions of the company and blending them into a comprehensive whole. The control section aids co-ordination by its continuous study of organization structure, and by gathering factual details about friction between parts of the entire organization.

### Aid in Interpretation

To measure performance and take corrective action, the president must have reports. The preparation and also the *interpretation* of them is the responsibility of the control section as well. This dovetails well with its other function—that of helping to formulate the program of goals.

In gathering the material for the reports to the president, the group goes to the finance department for statistics and to the actual operating sections for the rest of the story. The report to the president is in the form of a Monthly Progress Report—a one-unit folder which forms the basis for the monthly meetings of top executives and also for the monthly meetings of the board of directors. It is usually ready about

## HOW MANY PEOPLE REPORT TO COMPANY PRESIDENTS?

IN COMPANIES WITH

Under 50 employees



50 - 99 employees



100 - 249 employees



250 - 499 employees



500 - 999 employees



1000 - 2499 employees



Over 2500 employees



the middle of the following month but is preceded by a short flash report a week or so earlier which gives the profit data. The most singular fact about this report is that it provides a complete interpretation of the month's results, indicating cause, effect, and trouble spots, thus giving the president more time to consider the form of the corrective action and how to go about it. Even in this area, the control section is put to use. It studies the trouble spots and offers recommendations to the president.

But despite improvements in the content and form of reports, some presidents find themselves on shaky ground primarily because of poor control of their staffs, through whom of course they control the company. It is admittedly most difficult to formalize the complex working relationships that exist at the top management level but some companies are making headway in this direction.

For instance, at the Ensign-Bickford Company of Simsbury, Conn.—a 42,500-employee manufacturer of fuses and other products—a formalized system of projects for every top executive has been developed. The various projects assigned to each executive are given priority ratings of 1, 2, and 3, depending upon their urgency. Of the various projects which an individual may have, five or six of his main ones are selected for their special importance to the company. One of the gauges by which the president measures his staff is by project performance.

The project list of every top executive is in turn scrutinized periodically by the other key executives. The formalized system of projects therefore serves as a valuable tool in bringing about co-ordination of top management.

This concept of scheduling executive projects and requiring reports on them could be of help to many presidents, particularly to one who recently said, "They show me only the reports on things which are going well. The others are held

back until the situation is corrected." But despite the changes in methods, presidents' desks were never piled higher with paperwork than at the present time. Yet most presidents feel they don't have enough significant information to keep up with the competition.

But obviously no president can review and analyze all the important operating details of his company. If he did there'd be no time left to be an executive. And even if he did somehow manage to study them all, he'd have wasted his time anyway for by then he'd have no time to take action on any particular situation. For to control everything is to control nothing.

So what is needed is a program of streamlining of reports to top management, a movement which is well under way in many companies. This is a particularly appropriate time for such programs because now the processes of handling data are under the magnifying glass in many companies. The sharpening of competition is forcing most companies to improve their means of getting information.

Many fast-growing middle business corporations find themselves at loose ends primarily because the president hasn't done very much thinking about the kind of a company he wants. To attempt to grow in a balanced manner without first developing a plan and a corresponding set of controls to put the plan into action is like navigating without a compass.

After plans are jelled and goals are determined, the place to begin is with a decision about just what information top management needs to control the business. Companies should especially watch those areas which are critical for the particular line of business and should set up red flag controls to signal changes. The neglect of this seemingly common-sense dictum has tripped many newly diversified companies.

For example, in the textile business, sensitive management controls should be placed on inventory since small shifts can lead to large losses.





5 Verifax copies made in 1 minute for 2½¢ each

## Now that a photocopier costs less than an office typewriter...

**Large companies** will find that putting a Verifax Signet Copier in each department is every bit as practical as having a typewriter at each secretary's desk. Ends costly "travel" to duplicating room and waiting in line for copies. Speeds communications with other departments and customers—everyone gets copies soon as needed...

**"One-man" offices** can now enjoy the 101 short cuts Verifax copying has brought to thousands. For example—answer mail without dictation and typing; do "all-day" retyping jobs in 15 minutes. Eliminating only one page of typing per day, saves Signet's cost in less than a year.

**Does more!** This sensational copier makes 5 copies in 1 minute for just

2½¢ each. Does many jobs beyond scope of ordinary copiers—for example, makes copies on pre-printed office forms... and on both sides of standard copy paper. Even makes an offset plate in 1 minute for less than 20¢, using low-cost adapter.

**Misses nothing!** Verifax copies are photo-exact from top to bottom—especially important when you're copying legal papers and accounting records with all types of ink writing. No worries about deterioration, either—Verifax copies will last fully as long as any typewritten record used today.

**New free folder** gives complete details on new \$148 Signet and other Verifax Copiers. Also sent free—valuable booklet revealing the short cuts Verifax copying has brought to thousands of offices.

### MAIL COUPON TODAY

EASTMAN KODAK COMPANY  
Business Photo Methods Division  
343 State St., Rochester 4, N. Y.

4-10

Gentlemen: Please send free Signet folder, "Short Cuts" booklet, and names of near-by dealers. No obligation.

Name \_\_\_\_\_ Position \_\_\_\_\_

Company \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



Some presidents actively resist the delegation of duties to subordinates, so that they have too many people reporting directly to them.

One of the best ways for a small or middle business to plan and control its operations and avoid crises, is to plan each detail of the profit and loss statement for at least one year ahead. Individual costs can be most readily expressed as percentages of total costs so that deviations from budgeted expenditures are quickly spotted. However, experts insist that you shouldn't stop with a planned budget for expenses as do many companies but should go on and plan, as closely as possible, your income as well.

### More Pressure on Top

To find out how presidents of corporations of all sizes are doing their jobs in an increasingly competitive economy, DR&MI conducted a survey of thousands of corporation presidents and followed this with round-table conferences.

Detailed replies from hundreds of corporation presidents indicate that the pressure is increasing at the top level. While very few presidents have fewer people reporting to them than they did two years ago, 40 per cent are now carrying a heavier work load. Those who have managed to reduce the number of people who report, do so primarily by using an executive vice-president as a buffer between themselves and their subordinates.

Others—even small companies—have changed the methods of reporting to the president. Rather than having each top management man report singly, presidents are turning increasingly to the conference method as a means of co-ordinating functions, and saving time on individual face-to-face meetings.

However, there is still a sizable minority which prefers to avoid regular conferences as much as pos-

sible. They feel that too often a huddle turns into a muddle.

Nevertheless, experience indicates that if clear defined rules and goals are adhered to, conferences won't bog down and turn into wasteful time consumers, as they still too frequently do.

For example, at the Woodward Governor Co. of Rockford, Ill., the top management day begins with a meeting at which each executive reads his important correspondence so as to brief the entire team on company problems and how they are being solved.

At the Carrier Corporation of Syracuse, the top management group meets each Monday to brief one another on what's happening in the business. The executives examine the latest information on orders, production, inventory, and shipments, and plan corrective action.

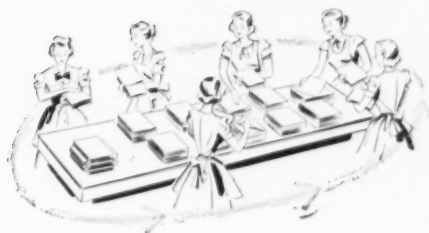
### Hindsight Earlier

One president insisted on having all communications with his staff in writing but most are seeking ways to cut down paper-shuffling while increasing the quality of the information.

As small companies take giant steps ahead, the yearning for better operating information is matched only by the yen for more capital. This is the situation at the Winfield Brooks Company, Woburn, Mass., a still small—30 employees—chemical manufacturer which has increased sales four-fold each year since it began four years ago. President Ken Perry yearns to have his hindsight come just a little sooner. To improve control he's planning soon to mechanize accounting. As with many small manufacturers Perry is keenly conscious of the

# Gathers 3,000 sets an hour—

*Macey Collator saves users  
up to 90% of hand collating costs!*



*The Macey Collator finally disposes of gathering and assembling by hand... a drudgery job, resented by office people, and a long-time headache for office managers and methods men.*

The Macey collates eight times faster than manual workers, and far more accurately... prevents disruption of office work schedules, borrowing of personnel, avoids overtime and standby crew expense, gets printed matter into use sooner, at a healthy cut in overhead costs.

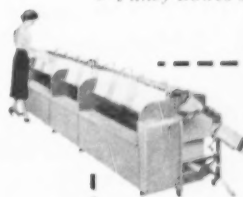
The Macey Collator brings a new versatility to collating... assembles single sheets, signatures, card inserts, samples and photographs of varying sizes, weights, and finishes. It can put together complex presentations of assorted exhibits, as well as routine collections of multigraphed and printed pages, lists, releases, bulletins, instruction manuals, catalogs, price schedules, etc.

In any paperwork operation—insurance, research, mail advertising, printing, education, Armed Forces, government agencies—the Macey Collator can make important savings in time and costs. And its wide utility lets many departments share in the savings.

A survey of your collating requirements, without obligation, will show how the Macey can help you. Call any Pitney-Bowes office, or send coupon for booklet and case studies.



- Fully automatic. Suction feed. Positive feeding control of every sheet. Easily set up.
- Handles sheets as small as 2 by 5 inches; and as large as 12 by 17 inches, depending on model.
- Available in 4, 8, 12 or 16 stations.
- Stacker, offset delivery unit, and wire stapler optional.
- Pitney-Bowes service available, coast to coast.



PITNEY-BOWES, INC.,  
1503 Crosby Street,  
Stamford, Conn.

Send free illustrated booklet and case studies.

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

*The Macey Collator is  
sold and serviced by*



**Pitney-Bowes, Inc.**

*Originators of the postage meter... leading maker of mailing machines... with offices in 95 cities in the U.S. and Canada.*

# New Dictation Planning Service

## HOW TO READ THIS CHART:

The installation shown is saving this department \$5,808.60 per year, over and above the cost of the equipment. In nine years, total addition to net profit will amount to \$61,579.80.

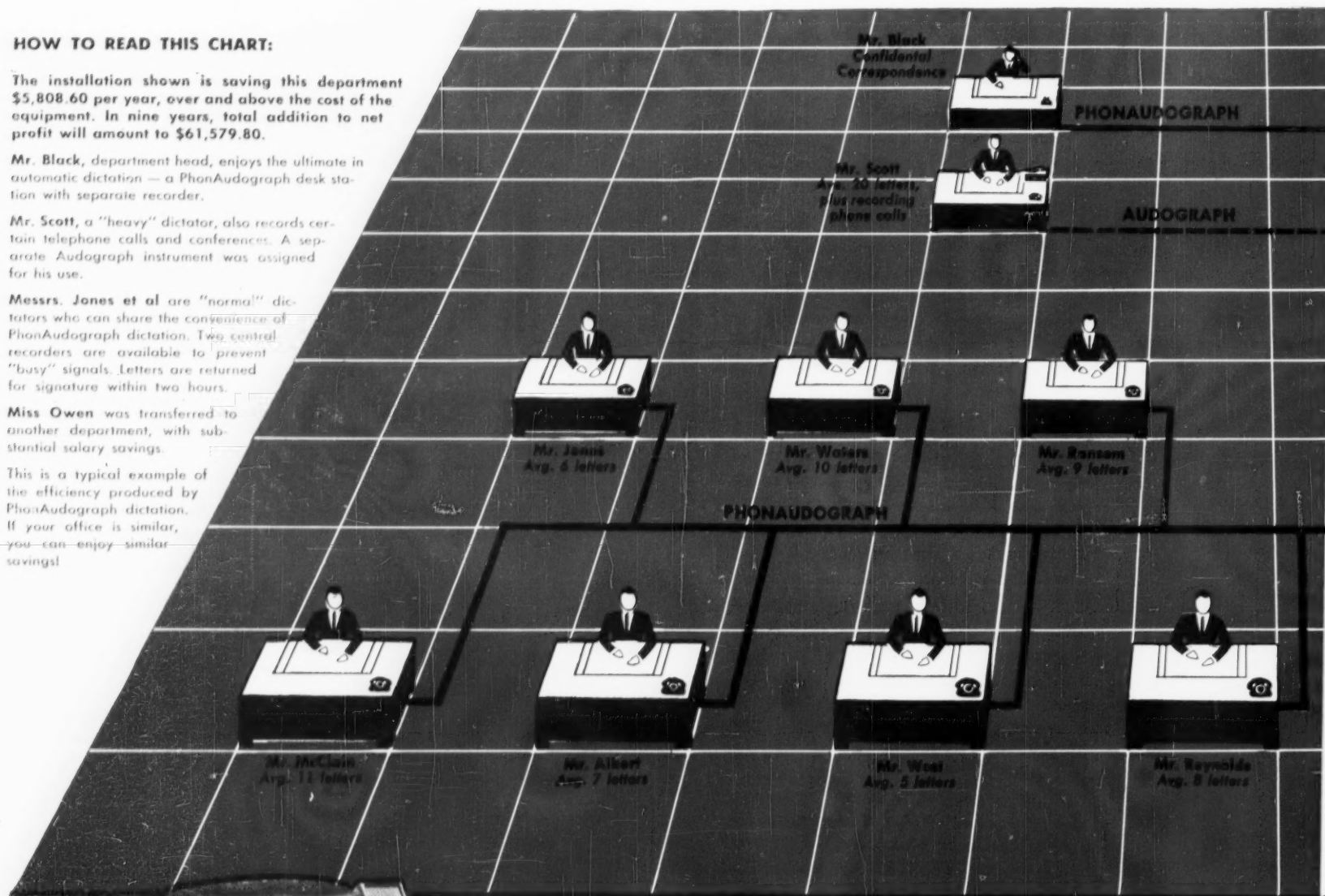
Mr. Black, department head, enjoys the ultimate in automatic dictation — a PhonAudograph desk station with separate recorder.

Mr. Scott, a "heavy" dictator, also records certain telephone calls and conferences. A separate Audograph instrument was assigned for his use.

Messrs. Jones et al are "normal" dictators who can share the convenience of PhonAudograph dictation. Two central recorders are available to prevent "busy" signals. Letters are returned for signature within two hours.

Miss Owen was transferred to another department, with substantial salary savings.

This is a typical example of the efficiency produced by PhonAudograph dictation. If your office is similar, you can enjoy similar savings!



With Gray's new Dictation Planning Service, you will readily see why so many companies have turned 100% to Audograph and PhonAudograph dictation equipment.

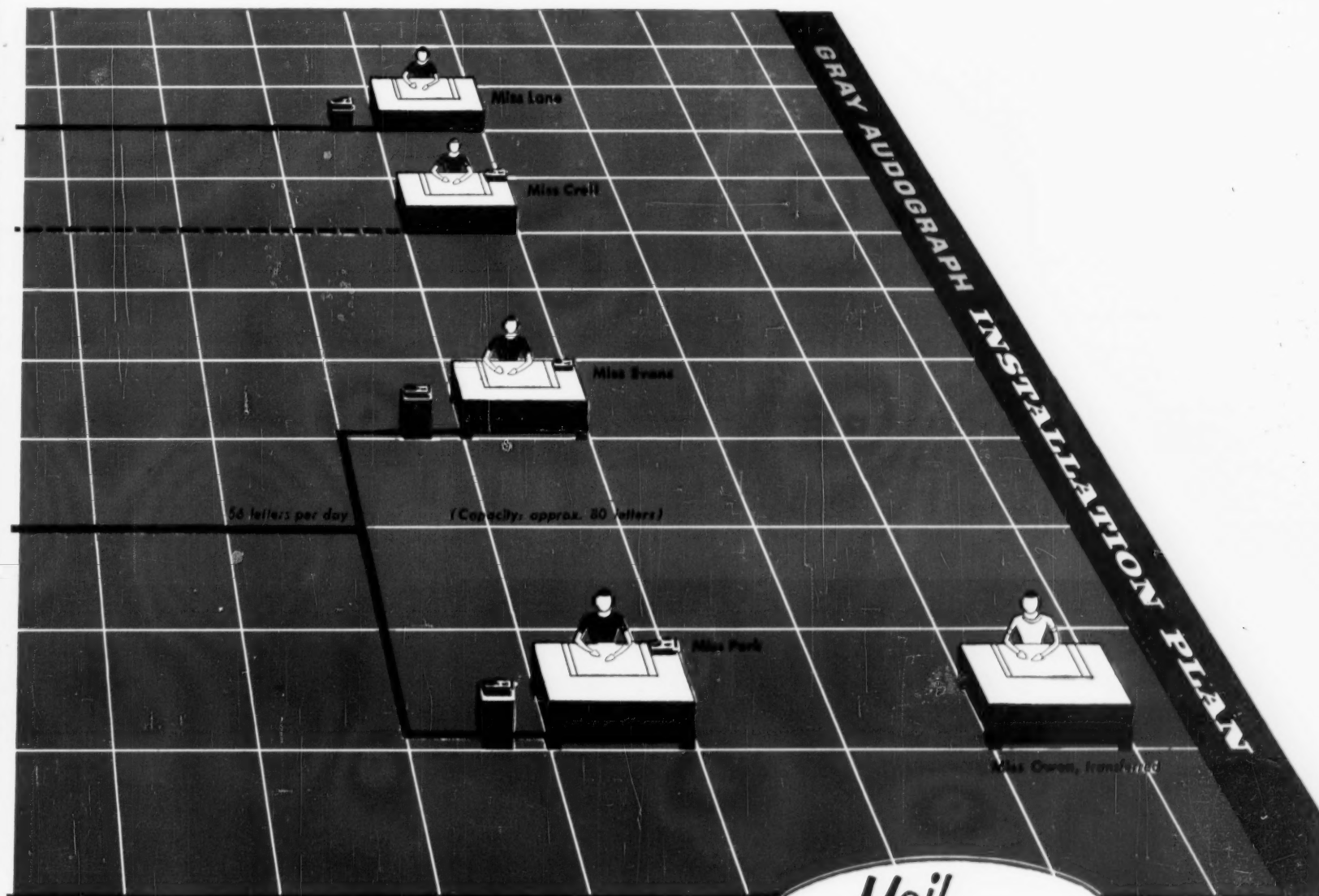
You will find out *in terms of your own offices* how telephone dictation works — how it gives your executives instant dictation service — how much your *net savings* will amount to while you are using the equipment on our new Rental or Pay-as-you-use Plan.

With the answers to just five routine questions, your Gray representative will quickly set up the preliminary installation plan and show you the cost figures (as little as \$4.50 per month per man). If you already have inter-office dial telephones, the installation is that much easier!

Get the facts on telephone dictation now. Have a flow chart made up for your own office or department. *The savings are worth the effort!*



# SHOWS YOU HOW MODERN TELEPHONE DICTATION APPLIES TO YOUR OFFICES—HELPS YOU PLAN FOR MAXIMUM SAVINGS!



## GRAY

### AUDIOGRAPH PHONAUDOGRAPH

AND TELEPHONE DICTATION SYSTEMS

Voice Communication Equipment Since 1891

MODERN INDUSTRY

Mail  
Coupon Today!

The Gray Manufacturing Company  
521 Fifth Avenue, New York 17, N. Y.

☐ Without obligation, I would like to see the recommendations of your Dictation Planning Service.

☐ Send me your new dictation booklet, "Talking Business."

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

X-10

OCTOBER 1956 • 63



## "This is the start of \$9,673 in new sales"

Remarks like that are typical of those who use direct mail advertising to locate prospects; to pave the way for sales calls.

And now, with the new developments in mimeographing and offset duplicating, you can easily and economically produce your sales promotion material in your office—produce ten to thousands of copies of typed, type-set, written, drawn and photographed material—copies in black and/or colors on a wide variety of paper and card stock.

For more information or a demonstration without obligation call your A. B. Dick Company distributor. You will find his name listed under Duplicating Machines in the classified section of your phone book—and you will find him unbiased since he has the equipment and supplies for both processes. A. B. Dick Company, 5700 Touhy Avenue, Chicago 31, Illinois. In Canada: A. B. Dick Company of Canada, Ltd., Toronto, Ontario, Canada.



**A · B · DICK**  
THE FIRST NAME IN DUPLICATING

MIMEOGRAPH • AZOGRAPH • SPIRIT • OFFSET  
• IMPRESSION PAPER • FOLDING MACHINES

need for tight inventory control.

While most presidents are as eager for facts as a politician for votes, there are always mavericks. One manufacturer of automobile cigarette lighters operates his thriving business literally from the backs of envelopes and seems to thrive on crises. But most small company presidents quickly learn that this is impossible when they begin to diversify and problems of co-ordination become more complex.

When we break down the survey replies into companies which have attempted to improve their data processing systems and those which have not, the replies point to very interesting conclusions for top management. Of all the companies which bought data processing equipment during the past two years, 50 per cent now have more people reporting to the president. Of the companies which didn't buy such equipment, only 30 per cent now have presidents with more people reporting to them.

#### More Work for Presidents?

Does this evidence, admittedly from a limited sample, indicate that improved data processing leads to a greater work load for presidents? No, more likely it means that more complete and timely information is now available so that the president can now have more people reporting directly, thereby enabling him to keep his fingers in a greater number of pies. This is a key consideration in this period of mergers, expansion, and intense competition.

However, the survey also shows that presidents frequently have too many people reporting to them. Management experts generally consider seven as the most desirable number of people who should report directly to the president. Of course, this may vary with personalities, the kinds of functions to be co-ordinated, the degree of delegation, and the type of operation, but it is a good general workable guide. Again, it's not so much the actual number of people who report as the quality of the information available to the president that counts. For people report only information.

Supervising directly too many people leads to wasteful use of time, loaded briefcases over week-ends, and generally inefficient top-level control.

How widely companies vary from what authorities recommend as a desirable span of control for company presidents was also revealed in our survey. While in each industry size group, the median number (the midpoint figure) of reporting subordinates was close to the recommended span of control, there were numerous variations.

For example, in companies with less than 50 employees, the number reporting to presidents varied from one to sixteen, while the median was six.

In the next industry group, companies with from 50 to 99 employees, the number also ranged from one to sixteen, while four was the most frequently mentioned number. In companies with from 100 to 249 employees, top-level subordinates ranged from one to twenty and again four was the most common.

The range was quite similar—from 2 to 21—in companies with 250 to 499 employees, while the median rose slightly to 7. In companies with 500 to 999 employees, the number ranged from one to eight, and the median was five.

In larger companies, those with from 1,000 to 2,499 employees, the span of control varied from 6 to 23, while nine was most often mentioned. In companies with more than 2,500 employees, the number reporting ranged from four to fifteen and eight was the median.

It is when small business becomes middle business that control problems seem most irksome. It is true that the more a company grows, the more important is top management control. But, giant companies can afford extensive staff groups, electronic data processing, and other management tools.

But short of these measures a good reporting system will enable a manufacturer who has moved up from the small business class to middle business, to retain the flexibility and adaptability which he enjoyed when he could walk through the plant, call the workers by name, and discover production, inventory, or delivery problems before they got out of control.

#### Time tells

If he arrives by 9:30, he's an executive. If he's at his desk by 9:00, he's a bookkeeper. But, if he's in by 8:30, he's probably the company president.

## Your Two Old Friends Are Becoming One

To serve you better, The Todd Company, Inc. and Charles R. Hadley Company are merging after more than half a century of working individually with business and industry on the problems of *protection and control* of company funds. Pooling their vast experience and facilities means better, more comprehensive service for you.

Todd's unparalleled experience in producing Checks and Check Protection Equipment and Machines dovetails with Hadley's experience in producing Accounting Forms and Systems.

Ask any Todd-Hadley representative for any information you wish regarding these helpful products.



### THE TODD COMPANY, INC.

Subsidiary of BURROUGHS CORPORATION

CHARLES R. HADLEY DIVISION


Rochester, N. Y. ★ Los Angeles, Calif.

Offices in principal cities • Consult your telephone directory



Now...like wearing "Magic Gloves"... *Golden Touch* Typing!



Never  before such Golden Ease,  
such speed, such print-perfect results!

Now, The Golden Age of Golden Touch! Suddenly (as if you'd put on "magic gloves"), your hands have exciting new precision with glorious, new typing ease. The new Underwood Golden Touch Electric sharpens your skill; saves your strength and precious time as no other kind of typewriter can. And for "Him"... truly print-perfect letters, with carbon-after-carbon-after-carbon print-perfect, too.

P.S. Call your Underwood office today.

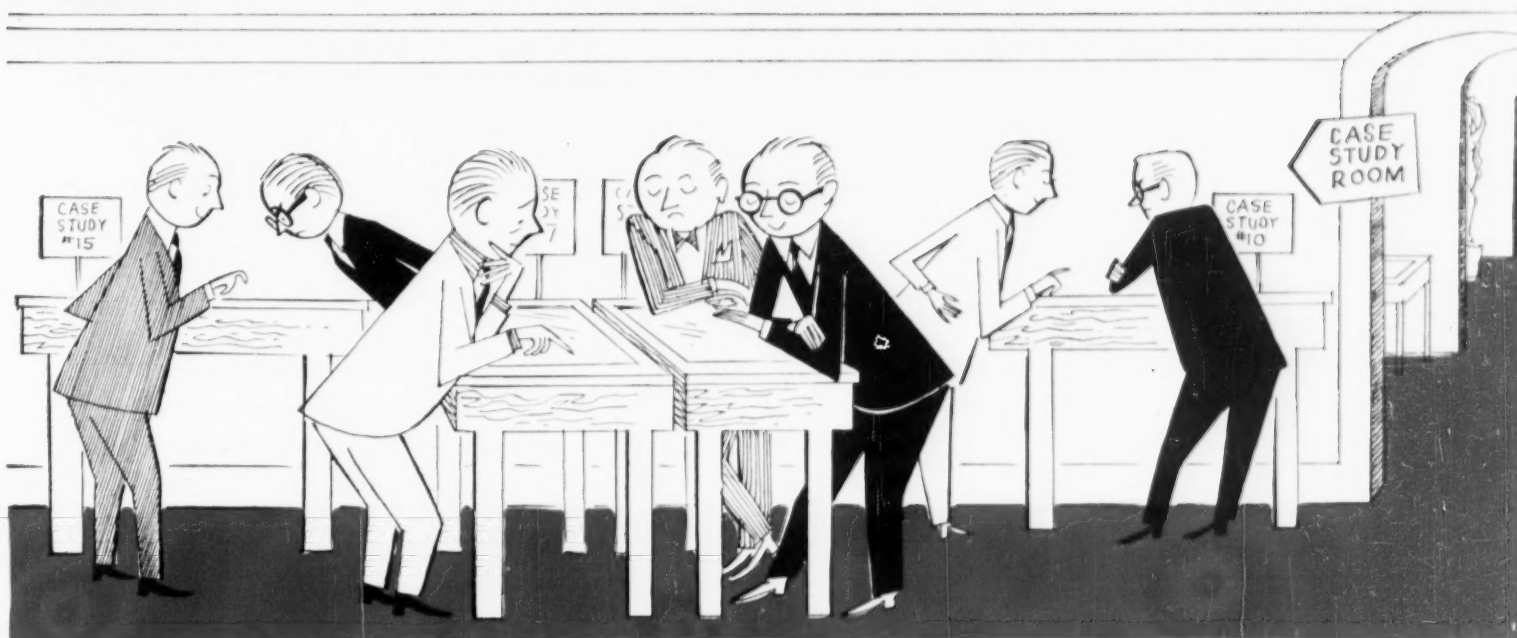
See the Golden Touch Electrics in 5 smart new colors.  
Underwood Corporation • One Park Ave. • New York 16, N.Y.

new... underwood *Golden Touch*

**Keyboard Margin-Setting** .....ends wasteful hand-travel!  
**Multi-Carbon Dial** .....gets you set for up to 20 clear copies  
**Electric Ribbon Re-Wind** .....ends messy ribbon-change!  
**Cushioned Power** .....for wonderful new, day-long quiet!  
**Automatic Carriage-Return** .....ends tiresome carriage-fling!  
**Half-Moon Keys** .....perfect protection against chipped nails!  
**Personalized Type Styles** .....for distinguished letters

**underwood** ...the only electric typewriter with *Golden Touch*

TOP MANAGEMENT CONTROL



## ADMINISTRATIVE AUTOMATION BEGINS TO MOVE IN

*Here are case studies of Sylvania Electric and other companies seeking better top-level management control.*

**O**N A HILLTOP once used by Algonquin Indians as a look-out point, you can now see the first monument to what is being hailed as "the administrative revolution." Here at Camillus, N. Y., where the sky was once closely watched for smoke signals, the Sylvania Electric Products company will be able to watch over every detail of its sprawling organization when its new Data Processing Center goes into full operation.

Constructed primarily to provide management with better—that is, more complete and fresher—information for control, the center is the first of its kind. Other companies have put large-scale computers to work in data processing, while others such as Alcoa, U. S. Steel, and Scott Paper, have set up Teletype and other wired

hook-ups to tie the parts of their companies together. But the Camillus center marks the first time that the two concepts have been blended together. By an 18,000-mile wired network Camillus links together 46 plants, 19 laboratories, 10 division headquarters, 27 sales offices, 17 warehouses, and the corporate executive offices in New York, and by doing so will provide a giant organization with the communication advantages of a small company. For the inside details on how the system works see page 69. Sylvania has already done much in this direction by its dedication to decentralization.

While the long-range goal of the data processing center is to provide quick and better information for management, plans have not yet materialized to that extent. At the present time and

for at least several more months, Camillus will be processing routine tasks such as plant payrolls in order to make the system pay its way while plans are being made for more elaborate uses in the future.

When the planning and programming has been completed in the next few years, here's what Sylvania expects to get for its investment which is running about \$850,000 a year:

- Up-to-the-minute inventory information on every product.
- Daily sales statistics on important products by each distributor and sales territory.
- An exact dovetailing of production with warehouse needs, so as to cut inventory investment.

*Text continued on page 70*

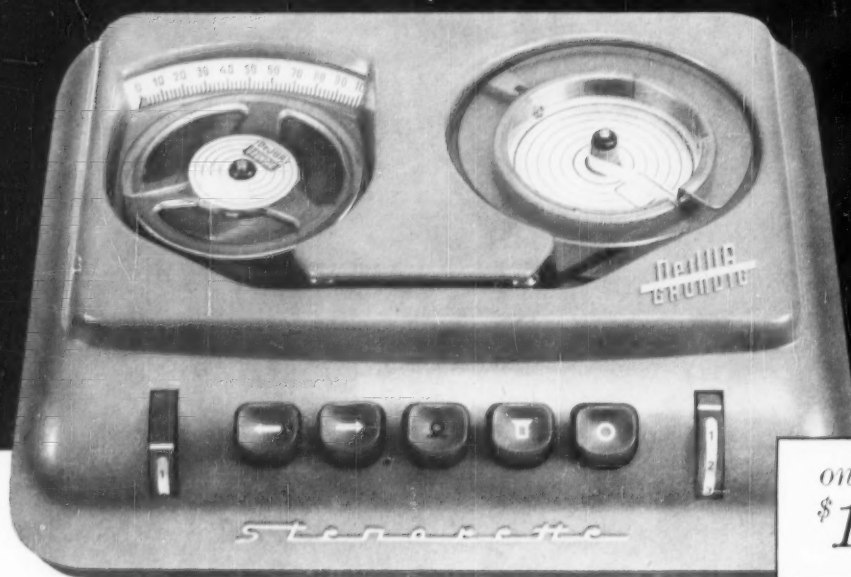
*Picture story on page 69*

# SMALL OFFICE

5 letters a day

# LARGE OFFICE

...or 5000



only  
\$169<sup>50\*</sup>

## You need the **DeJUR** Stenorette Dictating-Transcribing Machine

**DeJUR**  
**GRUNDIG**

The only dictating machine that can pay its way in the small office.

- Only half the price of any other major dictating machine—but with greater versatility, all dictating and transcribing features • One Stenorette can be used for both dictating and transcribing • Use the same magnetic tape over and over again • Make corrections and erasures directly on the tape—without touching the machine • High fidelity audio quality—completely private when earphones are used • 30 minutes recording time on a single reel of tape.

The modern dictating system for the large office at half the cost of

- other major machines • Every executive can have two Stenorettes (for himself and his secretary) at less cost than even phone-type systems • Use Stenorettes to record important conferences, play-back pre-recorded sales training lectures • Full 30-minutes of dictating on a single tape • No expensive re-surfacing of discs, belts or cylinders thanks to re-usable tape • Every franchised DeJUR dealer maintains instantaneous service for all his customers.

### SMALL OFFICE

MAIL THIS COUPON TODAY!

DeJUR-Amsco Corp., 45-01 Northern Blvd.,  
Long Island City 1, N. Y.

Gentlemen: Please rush to me all the facts on the Stenorette and its benefits for the small office.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_

STATE \_\_\_\_\_

DR-10

### LARGE OFFICE

MAIL THIS COUPON TODAY!

DeJUR-Amsco Corp., 45-01 Northern Blvd.,  
Long Island City 1, N. Y.

Gentlemen: Please send me details on how a modern Dictating System can be installed at half the cost of any other system.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_

STATE \_\_\_\_\_

DR-10



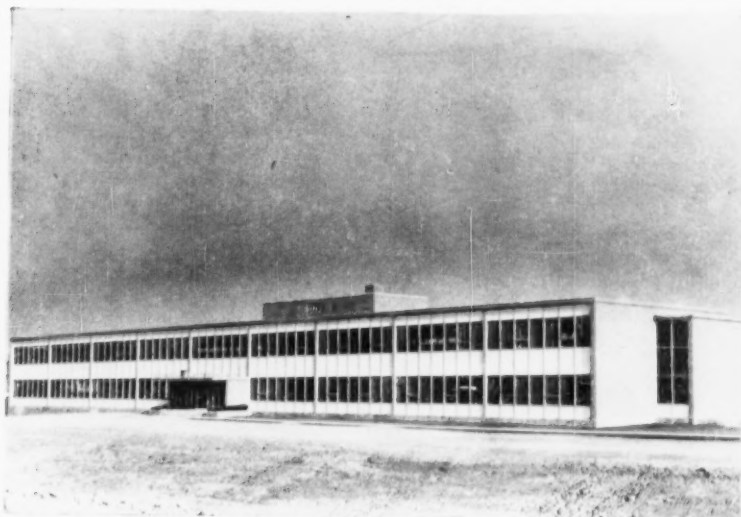
Booth 105 at the National Business Show

N. Y. Coliseum, Oct. 15-19, 1956

\*Transcribing accessories at slight additional cost.



# New Plant Produces Answers for Management



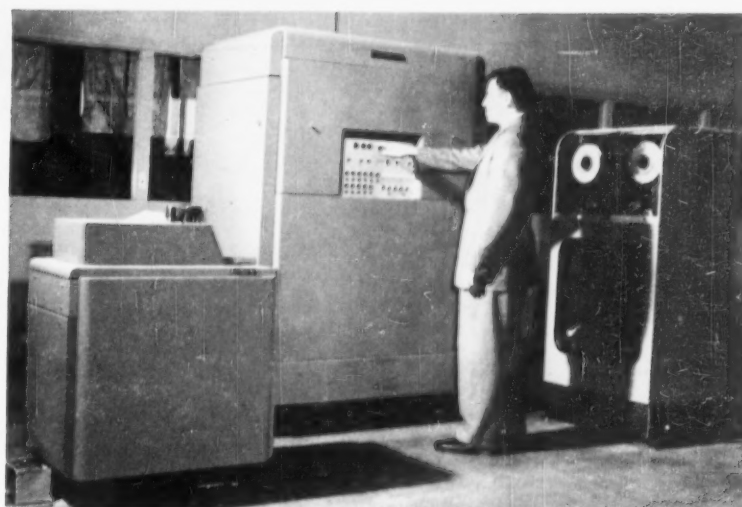
1. The first building of its kind, the Sylvania Data Processing Center at Camillus, N.Y., is nerve center for plants and offices in 61 cities.



2. When information arrives at the center on the 18,000-mile network, these receiving cabinets produce data in the form of punched paper tape.



3. The freshly received data are next converted to punched cards so that they may move from punched paper tape to a seven-channel metal one.



4. Seven-channel magnetic tape is now ready for the computer, where sorting, collating, computing, and summarizing are done at split-second speed.



5. Technicians control the exact operations to be done in the giant electronic computer by flicking switches on Univac system's console panel.



6. Printing as many as 600 lines of 130 characters a minute, the printer translates the work completed by the computer into readable form on paper.

- Sales forecasting and market research data.
- Complete accounting and statistical services for all ten divisions.

Says President Don Mitchell, "We will not only learn to do some things we have never done before, but we will find the answers to some problems that we do not even know exist to-day."

One of the most important by-products of electronic data processing is its ability to strengthen the practise of management by exception. For example, the Camillus computer will be programmed so as to spew out special reports when any particular set of data—inventory, sales, customer returns—move outside of a predetermined range. The principle of management by exception is nothing new—alert executives have been practising it for years to cut down the load of decisions to be faced. But what is new is using the computer to flag quickly situations that need and can be remedied by swift management action.

What the new Sylvania data processing system amounts to in essence is better, faster, and more complete information at or below the division level so that each of the ten divisions can move quickly as markets and business conditions shift. This is entirely in keeping with the company's devotion to decentralization of decision-making. The flow of new significant information will tend to push decision-making further down in the organization, thus relieving higher management for planning. For the ability to make a decision depends in reality on the possession of valuable information.

Of course, it will also result in better information for the president so that the sensitive control he now exercises can be even further refined.

Since Sylvania is composed of ten divisions each of which almost operates as a separate medium-sized business, it is as if these ten had pooled their resources to set up a data processing service center for themselves.

The data processing center was built at Camillus, apart from any one division of the company, so as to insure complete independence for this function which cuts across all departments as well as divisions. It is under the direction of Controller Lee Guest who is responsible to the president. Incidentally, the complicated problem of determining the site for the center was solved by using an operations research technique—linear programming. A giant computer was used to determine relationships among the many variables of the problem.

But even before integrated data processing was conceived by Sylvania, the company had done much to improve top management control. Since the company has grown more than fourfold during the past decade and is now selling in a score of markets, decentralization has become the key to control. As Don Mitchell admits, "If I had to make decisions personally on everything that goes on in those 46 factories and 19 laboratories and 17 warehouses I wouldn't be here to-day. It is only because we really practise decentralization that it becomes possible for one man to at-

tempt to manage a corporation of our size."

Despite this and the many other advantages to decentralization, Mitchell warns that there are limits to it. If yours is a diversified product line, divisions can operate almost as separate businesses. Mistakes in one part—by which executives learn and grow—will not be reflected in other divisions. But a good sensitive control system over all divisions for top management can point to the seeds of coming mistakes or at least call a halt to them before they go very far.

Not only is decentralization strengthened by integrated data processing by providing fuller, fresher information for all levels, but in addi-



*As more information becomes available through integrated data processing, decisions can be made further down the line, thus relieving the burden on presidents to a large degree.*

tion decentralization seems to call for IDP to pull together scattered and complex information needed for effective top level control.

The president of Sylvania maintains control of his sprawling company through the twelve top executives who report directly to him. Most of these are staff—for example, vice-president—marketing and vice-president—engineering and research. Four of the twelve head up the ten operating divisions which produce such diversified products as flash bulbs and fuel elements for atomic reactors.

Such staff groups as controller and personnel also exist at the division and plant level.

Besides almost constant consultation with those who report directly to him, Mitchell meets monthly with the top-executive group to discuss the progress as shown in the monthly statement to the president.

This report is a short, yet sensitive indicator of company operations and is the result of a report-pruning effort which took place in 1954. The aim was to arrive at as few reports as possible for effective control and to replace the overly detailed reports which had gone to all the top officers.

By the tenth of each month the president receives for his loose-leaf statement book:

- A one page tabular summary of company operations.
- Eight other one-page summaries for each of the ten operating divisions.
- The same information in graphic form.
- A sheet of comments for each of the nine tabular pages which can be read in conjunction

with, or instead of, the tabular sheets.

This may sound like a heavy dose but in reality it is not. Here is a rundown of the items which appear on the company summary:

Gross sales  
Income before tax  
Per cent of gross sales  
Federal taxes  
Net income  
Investment  
Per cent return before tax

Each of these items is given for the previous month, the year-ago month, and the two preceding months, as well as projected for the three

months to come. In addition, the cumulative totals for the year are compared with the budget and the per cent of deviation is shown.

In addition, the per cent return on investment and the earnings per common share of stock are shown for the previous two quarters and projected for the next quarter.

Similar information appears for each one of the ten operating divisions so that the president can spot the exact point of deviation from plans and call for corrective action.

Each of these operating reports is supplemented by monthly profit and loss statements and balance sheets, also expressed in percentages to pinpoint variations from budgets and plans. Sylvania's controller Lee Guest points out that "the key to a good reporting system for the president is that it should show what's coming in the months ahead. To know that costs were too high last month is worth knowing, but little can be done beyond trying to correct them now. But to know that costs are going to be high in the months ahead is really important for it allows time for action."

For Clinton F. Robinson, president of the Carborundum Company, effective control results from a combination of reports and conferences, as in most well-run enterprises. His basic work tool is the monthly "Progress Report" which is discussed at a monthly executive conference of all major line and staff officers. And as in most well-run companies this basic report to top management is not static or jelled. Rather, it is under constant scrutiny so as to improve its usefulness as a reliable tool for top management.



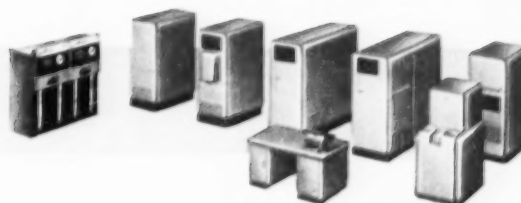
## The Men Who Manage Stand Alone

They may have built a great management team... they may have expert advice on tap... yet the men at the top must make the ultimate decisions on the *really* vital questions.

**Which sales policy will pay off best?**  
**Are costs out of line? Where? Why?**  
**Which branches must do better?**  
**Should we make it or subcontract?**  
**Is our new product a surefire seller?**

But today, to *ease* this pressure on top executives... a great new electronic tool has been forged: Univac File-Computer! For management decisions must be based on cold, hard facts. And Univac File-Computer delivers *more* facts, more *comprehensive* facts, more *reliable* facts... and delivers them far *faster*. All this in addition to racing through routine accounting chores in a fraction of the time and cost they now consume.

Why not let Remington Rand *show* you how the PROFIT POWER of this medium-size Univac will help you solve vital problems... give you the jump on competition... open up a vast new world of efficiency and profit. Call our local branch today, or write for free folder TM939: "A Big New Step Toward the Automatic Office," Room 2091, 315 Fourth Avenue, New York 10.



**UNIVAC® FILE-COMPUTER**

***Remington Rand Univac***

DIVISION OF SPERRY RAND CORPORATION



neenah  
modestly  
asks



why is  
**chieftain bond**  
the most popular  
50% rag bond  
in America?

Because people like everything about it.  
Ask your printer for samples of  
America's largest selling 50% rag bond —  
Chieftain Bond.



Want help in recognizing the right  
letterhead for your company? Then  
ask your printer for a free copy of  
"The Right Letterhead for You."



**neenah paper company**  
neenah, wisconsin



*Don't burden top-level executives with operating reports they don't really need. Remember that a large share of the costs of paperwork comes from the end use rather than the mere creation of it.*

Carborundum has been seeking to better the accuracy, scope, form of presentation, and timeliness of this key report. Recently, the timeliness of the report has been receiving most attention because of the need to react quickly in a fast-changing economy.

To meet the need for timeliness, the company has been preparing for the past two years of the installation of a giant computer. After the installation, which should be complete in several months, Carborundum expects to develop a new system of reports for much tighter control of operations, while providing economies in production, distribution, and administration.

The decision to go ahead with electronic data processing was impelled, as Clinton Robinson describes it, by "the tremendous amount of additional information needed for better sales forecasting, sales planning, improving customer service, production scheduling, inventory control, and product costs, which are now too costly to get."

How does a small company which needs more operating reports and needs them faster solve its problem? The solution reached by the National Transit Company, of Oil City, Pa., (275 employees) may be an isolated instance or again it may point to an important trend in data processing for the future.

The solution? National Transit joined with two other pipeline companies to pay for a small electronic computer to serve all three companies. The rental price of the electronic punched-card computer is shared by all three companies, while the actual equipment is housed in the National Transit company offices.

To make the new system work, all three companies had to adopt uniform accounting procedures. All permanent records of the three companies are still kept at their respective offices with only daily operating information transmitted to Oil City.

The results of the system have been substantial savings in clerical costs and more complete, faster reports. But, of course, this is an unusual situation of three non-competitors in the same line of industry co-operating for their mutual EDP advantage.

### **Too Much Information**

After moving into their jobs, some presidents feel there is a dearth of information by which they can control the company. But more frequently, a flood of facts washes over the top man's desk and leaves him gasping for air. One of the key problems for any president is deciding how much information is too little and what is too much for effective control.

For example, a new management group recently moved into one of the largest publishing companies which shall remain nameless here. The new president was soon hit by a tidal wave of reports which covered every imaginable detail of the many sides of the business. And the reports kept coming. If he were to make any serious attempt to absorb the information in the reports, the president realized that he would have to delegate the responsibility for running the business to someone else, while he became the reports analyst.

To rescue both the president and his company from this sorry situa-



## THE FINE ART OF FILING AND FINDING IS MOST COMPLETELY EXPRESSED BY REMINGTON RAND!

A simple phone call to your local Remington Rand representative can start you toward solving one of the most costly and time consuming headaches in business today! That's the management of your records . . . the fine art of filing *and* finding. And it is a fine art, for the paperwork involved in business today is increasing in quantity and complexity.



The Remington Rand specialist can show you that very likely a good portion of most business records are not kept in the right place. That another part of these records can in fact be destroyed immediately. That much is inactive and can be stored elsewhere thereby solving your space problem. He'll help survey all your records, and assist you in setting up a system that will *keep* the management of your records flowing smoothly and efficiently.

In doing so, he may well recommend that champion of all space-savers, a FILM-A-RECORD microfilm machine. For a stack of records a yard high can be reproduced permanently, exactly, quickly on a roll of film small enough to hold in the palm of your hand. And, they can be quickly *found* when needed.

Or it could be that your solution to saving space and cutting cost in the file room is Remington Rand's shelf filing system.

And something that will fit into just about everybody's filing situation is the Remington Rand exclusive KOMPAKT line of files. *Same*



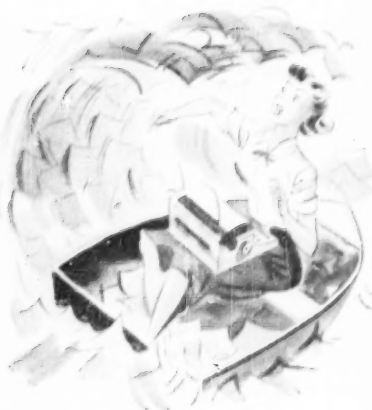
*height, depth and width* as conventional filing cabinets, but *you get one extra drawer*. Imagine the savings in space and money.

These are only three of *more than 120* record control and filing systems he might suggest.

Why not put your filing problems in the hands of your Remington Rand specialist and let him show you the best way to manage your records. Call him, or write for FREE illustrated booklet, "Your Records," (X1615) to Room 2092, 315 Fourth Avenue, New York 10, New York.



**Remington Rand**  
DIVISION OF SPERRY RAND CORPORATION



## Swamped by A Sea of Paperwork?

If your business forms require more than one copy, the odds are pretty certain that ordinary forms and procedures are too voluminous, too time consuming and too costly. But don't abandon ship!

### CALL COLITHO'S FOLIO OF APPLICATION IDEAS TO THE HELM

This folio is jam-packed with examples of how Colitho Offset Duplicating Plates have streamlined virtually every type of business form and system.

Colitho Plates produce sparkling, original-like copies faster and more efficiently. They completely eliminate re-typing and the possibility of transcription errors.

**COLITHO'S FOLIO OF APPLICATION IDEAS** contains solutions to many paperwork problems. Send coupon with your letterhead for your free copy.



**Colitho**

THE "ONE WRITE" WAY TO RUN A BUSINESS

Colitho Division,  
COLUMBIA RIBBON & CARBON MFG. CO., Inc.  
8610 Herb Hill Road, Glen Cove, N. Y.  
Okay: rush the Colitho Idea File.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

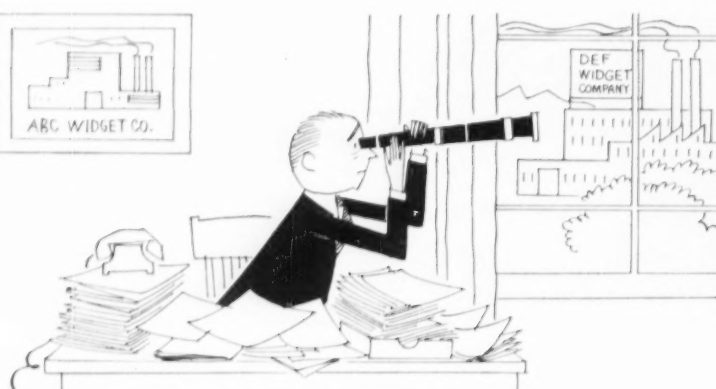
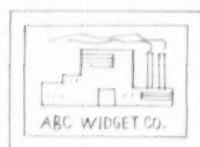
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

tion, the management consulting company of John Diebold & Associates was called in to analyze the whole system of reporting and to streamline it through the use of electronics. They discovered that during a three-month period, 621 different reports were prepared for the attention of the president or about one for each and every working hour. These reports were so thorough that they detailed to the last penny the least consequential subsidiary account.

They flowed to the president from every division in the company, each of which had some staff for the specific purpose of their preparation, thus adding considerably to

formation is readily at hand in a form which enables the executive to spot quickly the situations which call for his special attention. To achieve this, a 32-page book was designed which provided in the form of tables a detailed yet comprehensive picture of company operations. New data were posted to this book daily, at first by hand, later by machine.

Rather than individual reports which wandered like minstrels through his office, the president now had what amounted to a picture tube in which he could watch the operations of the company. The statement book remained on or in his desk constantly up-to-date and



*President's desks were never piled higher with paperwork than at the present time. Still, most presidents feel they don't have enough valuable information to keep up with the competition.*

the budget. The reports were poorly organized. It was as difficult to locate the division's gross profit as it was the amount spent for janitor's supplies.

There was little doubt that electronics could be applied, with savings in clerical costs, to the more rapid and highly automatic production of these reports. However, that hardly seemed the answer. Mechanization would merely have meant the perpetuation of a bloated reporting system. The initial step was clearly the reworking of the system itself with the eventual goal of processing by machine.

The experts cut the problems into three manageable parts:

1. The determination of the data (its nature and form) the president and top management needed.
2. The organization of the data management function.
3. The development of data processing methods.

Top management control is effective only when the needed in-

formation is readily at hand in a form which enables the executive to spot quickly the situations which call for his special attention.

To make the president's control of the company more sensitive and to free him of cloying details, the data in the statement book were highly refined. In contrast to previous reports which were virtually inert, raw data, the tables in the book compared related figures and showed percentage changes between various series of data. Incidentally, the tables were designed in terms of eventual machine processing.

The figures for the current period and for the year to date were displayed in parallel columns with the comparable data for the previous year and with the budget figures so that the president could assess not only the progress against the past performance but the actual progress as against the goals for the current period. The result is a collection of information in which the exceptional could be readily spotted. The elements of the exceptional situation were also



## Who's Got That Jones Estimate?

Tearing the hair only makes for ulcers. Keep your papers filed the Acco way and stay happy. Your estimates, orders, correspondence, invoices—all your business records—are always where you want them, when you want them, when you use Acco Press Binders or Accobind Folders in your files. Made of durable pressboard (choice of 5 colors) to last and last. Loose-leaf binding at a low price. Sizes to fit all your needs—and to bind from a single sheet to a six inch pile. Acco equip your files now. Ask your stationer.

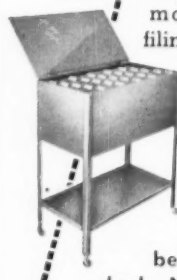
**ACCO PRODUCTS, Inc.**  
Ogdensburg, N. Y.

In Canada: Acco Canadian Co., Ltd., Toronto

why be  
a  
jumping  
jack?

**Oxford**  
**PENDAFLEXER**

ends jumping up and down to refer to filed material in distant filing cabinets



- convenient
- saves time
- saves energy

Pendaflexer can be wheeled alongside desk. Newstyle hanging Pendaflex folders give quickest reference.

dimensions:  
28 1/8" high, 13 1/4" wide, 24 1/4" long.

Clip coupon for catalog, name of dealer

Oxford Filing Supply Co., Inc.  
29 Clinton Road, Garden City, N. Y.

Name \_\_\_\_\_

Address \_\_\_\_\_

City, State \_\_\_\_\_



his executive  
letters  
are  
important...  
look  
important!



they're turned out on the Remington Electric

Realizing the importance of letters that *look* impressive, it's no wonder this top executive has his correspondence typed on a Remington Electric. It's the typewriter that offers a selection of over 100 distinctive Executive type styles . . . letterhead-harmonizing colored ribbons . . . consistently perfect printwork. In short, business correspondence that reflects his status.



**Remington Rand**  
DIVISION OF SPERRY RAND CORPORATION

Send for beautiful, full color booklet "Launching A New Era of Typing Perfection" (RE8811), Remington Rand, Room 2013, 315 Fourth Avenue, New York 10, N. Y.



## How to put every key man within 5 seconds of your desk

Your organization enjoys an immediate lift in efficiency with a Stromberg-Carlson sound system.

The time you save when you have fast communications at your fingertips is incalculable. Voice paging provides *instant contact* with any individual on your premises. It *reduces personnel expense* because there's no need to send your secretary or office boy on repeated, time-wasting "manhunts."

*Customer relations are improved*, too, because you can get quick answers to customers' questions from the right person without delay. And you, yourself, are free to continue your work quickly.

A Stromberg-Carlson sound system with our exclusive "Red Telephone" all-call alarm provides voice facilities for immediate warning in case of emergency.

Whether your organization is an industrial firm . . . commercial establishment . . . social agency . . . public utility—or any other organization that needs efficient communications—we can engineer a sound system to meet your particular needs.

You may have anything from a simple telephone intercom to a complex public address, paging and radio distribution system *on lease—without spending a cent of capital funds.*

Mail coupon now for free survey of your needs.

### STROMBERG-CARLSON COMPANY

A DIVISION OF GENERAL DYNAMICS CORPORATION

1704 UNIVERSITY AVENUE • ROCHESTER 3, N. Y.

Company .....

Address .....

Person to see .....

easily available but supported rather than obscured the key information.

The second conclusion was that data management should be the responsibility of a specialized central group and not a side duty of each operating manager. So an information center, headed by a supervisor responsible to the treasurer was created. This is a clearing house for all company data and is the responsible source of all reports to the president as well as to other management people.

Now with the establishment of the information center, and the successful manual paralleling of the new and old systems, attention is being turned to the installation of an automatic data processing system for the production not only of the president's statement book but of similar but more specialized control books for each key member of top management. The first phase of the project, the complete redesign of the top management reporting system and the manual prove-out of the new system took a little over a year. The mechanization of the system through the use of a magnetic tape system is expected to take only about as long, because of the extensive systems work that was aimed precisely at developing a system suitable for office automation.

### The Missing Link

In some industries, the lack of one key area of information can make the difference between boom and bust. For instance, in the field of fashion—and this applies to men's jewelry because about 80 per cent of it is bought by women—

the right hand rarely knows what the left hand is up to. Or at least not soon enough.

Take for example the introduction of the narrow necktie. For some makers of tie bars and clasps, the slim cravat almost became a noose. There was too long a lag from the time they learned it was a fashion success until the time they could tool up, produce, and ship their new narrow tie holders into a changed market.

But in the quiet of the New England town of Attleboro, Mass., Teletypes were clicking and data processing machines were humming to report and evaluate the new development for top management of Swank, Inc. Linked with the key markets of Los Angeles and New York, the Attleboro plant receives up-to-the-minute sales statistics on the 2,000 new designs which are introduced each year.

After fast processing, the reports are passed on to top management so that quick decisions can be made about production and inventories. In this industry in the past, rash decisions about boosting the output of particular designs were made largely as the result of the natural exuberance of salesmen. One company has a large storeroom of "lemons" which didn't justify being produced after more complete market data were made available.

The results of this new system—which involves Monroe adding machines linked to five-channel tape—are fresh reports for top management which enable Swank to keep inventories at minimum levels, and to co-ordinate production and sales quickly as markets shift.

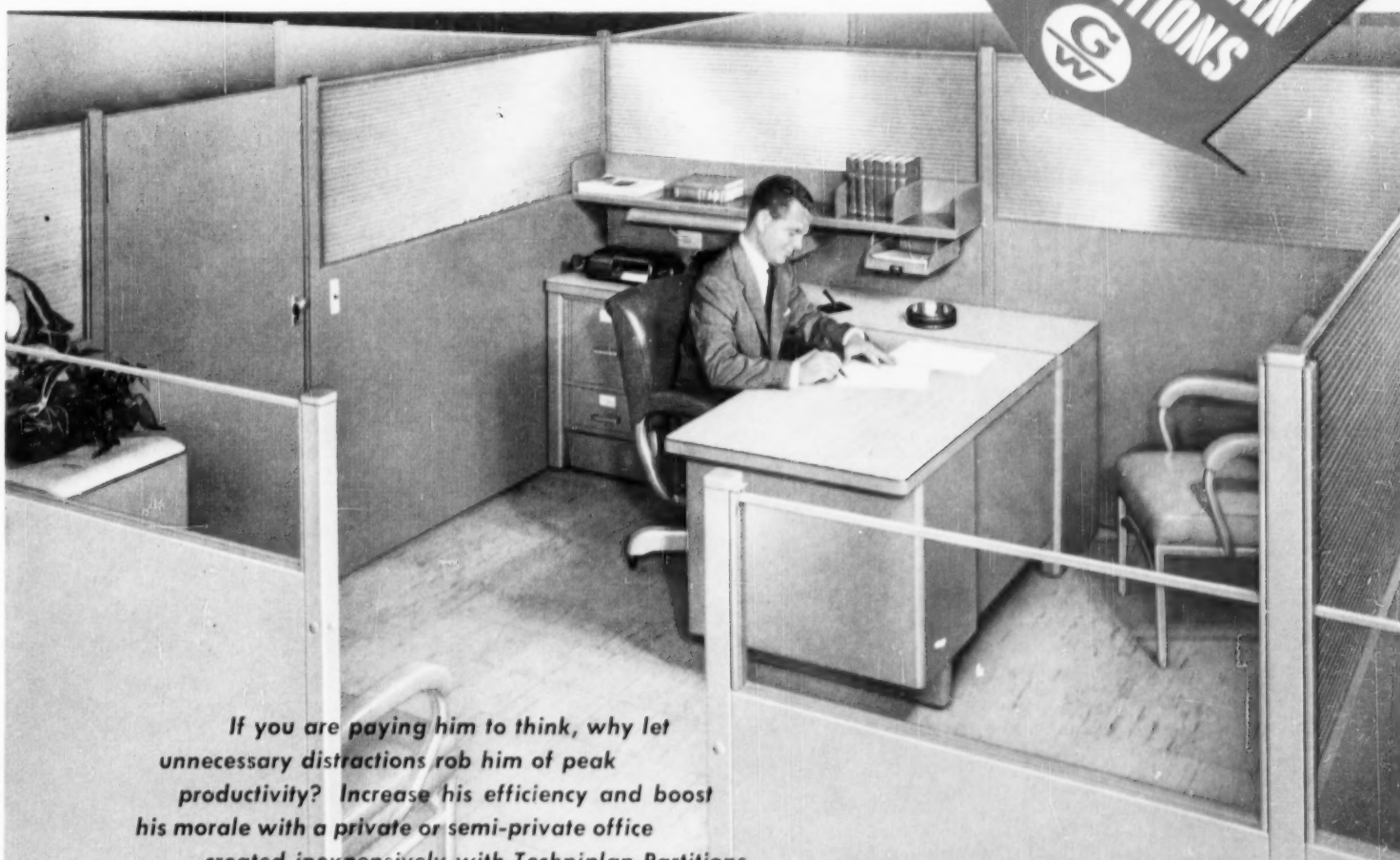


*The monthly profit and loss statement and the balance sheet are not enough for proper company control. Special reports are needed.*



**Time to  
promote him to a private office...**

**TECHNIPLAN  
PARTITIONS**



*If you are paying him to think, why let unnecessary distractions rob him of peak productivity? Increase his efficiency and boost his morale with a private or semi-private office . . . created inexpensively with Techniplan Partitions, Globe-Wernicke's free-standing walls of sturdy steel.*

Techniplan Partitioned offices can be installed immediately without any alteration of your lighting, air conditioning or other existing facilities. Attractive, work-inspiring offices can be tailored to your specific requirements through a wide choice of heights, widths, harmonious colors and top-panel materials.

Surveys prove that private offices mean added production from key men. Why not let Techniplan Partitions provide it for you? For complete information about these and other benefits of Techniplan Partitions, call your Globe-Wernicke dealer\* today . . . or write us direct.



**GLOBE-WERNICKE**

CINCINNATI 12, OHIO

\*Dealers listed in Yellow Pages under "Office Furniture."

FOR 74 YEARS, MANUFACTURERS OF THE WORLD'S FINEST OFFICE EQUIPMENT, SYSTEMS, AND FILING SUPPLIES



# Memory-power



THIS INGENIOUS "MEMORY" (magnified here) helps make possible 35 basic models of Sensimatics—one made for your type of accounting job!

## extends automatic accounting to all

KNOW NO BOUNDS. Bring on your accounting jobs! . . . the easy ones, the very toughest. There are Burroughs Sensimatic Accounting Machines *just made* to take them all in stride!

What makes this possible? The widest range of "memory-power" ever! Fact is, there are 35 basic models of Sensimatics split into five broad series. And this gives you a choice of totaling capacity or "memory-power," ranging from 2 totals clear up to 19 totals.

This means you get (*and only have to pay for!*) a machine with just the "memory-power" your accounting jobs demand. Just as if it were designed especially for you!

And that's only the half of it. For each Sensimatic—highly specialized

models and all-purpose machines alike—has its own *exclusive* "mechanical brain," too. And it's literally hand-tailored to pilot you through all your accounting operations *automatically!*

It all adds up to this: Now you can enjoy the economy and security of truly mechanized accounting—geared specifically to your needs, *whatever* your needs! Complete demonstration? Just phone our branch, Burroughs Corporation, Detroit 32, Michigan.



## Burroughs Sensimatic

"Burroughs" and "Sensimatic" are trademarks

*Handsome, Colorful, Prestige Package*



# plastic binding creates impact

...and you can plastic bind  
right in your own office!

Now—with this remarkable new GBC system you can quickly bind in professional style your own manuals, price lists, presentations—in fact, anything typewritten, duplicated or printed from 1 page to 500 pages. You can bind one book or as many as you need—when you need them—with any type of GBC cover material—in your choice of striking colorful plastic bind-

ings. You can create your own modern prestige-building plastic bound books. Every page lies perfectly flat, without wasted space, without hidden gutters. You can do all this at surprisingly low cost—in your own office—with no skill or experience required. The GBC system is used and approved by thousands of large and small organizations alike.

Now easier! Now faster!

Now more economical than ever before

*The All New*  
**GEB-TRONIC**  
electric punch and  
binding machine

OTHER MODELS  
AVAILABLE FOR  
EVERY SIZE  
OPERATION



*So Simple  
So Fast*

1

PUNCH

2

BIND



General Binding Corporation  
812 W. Belmont Ave.  
Chicago 14, Illinois

DR-106

Gentlemen: Please rush me without obligation your Free Book, "Manual of Modern Plastic and Loose Leaf Binding." I am interested in how plastic binding can be beneficial to my business.

Name \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

Zone \_\_\_\_\_

State \_\_\_\_\_

Offices in all principal cities in the U. S. A., Canada, Mexico and European Countries

*Mail Postage Paid Air Mail  
Card Today For Free Book*

**"MANUAL OF MODERN PLASTIC  
AND LOOSE LEAF BINDING"**



It's the Geb-Tronic Punch  
It's All Electric  
It's Brand New

# new GBC plastic binding system

## *Binds Anything*

Find out how  
you can use it  
in your business

Send for new

### FREE BOOK

You, as well as every executive member of your staff, should read this idea stimulating report on plastic binding. It illustrates the many advantages of a GBC Binding System in your office. It explains completely the 1001 applications that will save time and money as well as add prestige and readership to your presentation material. Send for your free copy today. The supply is limited!

#### The GBCo System

Binding Equipment • Plastic Ring Binding • Metal-Ring  
Looseleaf Binding • Covers • Rex-o-graph Spirit Duplicators • Rex-o-graph Duplicator Supplies

Equipment and Supplies to handle everything  
from the written word to the bound book.

GENERAL BINDING CORPORATION 812 W. Belmont Ave.  
Chicago 14, Ill.

FIRST CLASS

Permit No. 36621  
(Sec. 34.9 P.L.&R.)  
Chicago 14, Ill.

Via Air Mail

BUSINESS REPLY CARD

No postage stamp necessary if mailed in the United States

5¢ postage will be paid by

GENERAL BINDING CORPORATION  
812 W. Belmont Avenue  
Chicago 14, Ill.

#### FOR YOUR BUSINESS THIS MODERN GBC PLASTIC BINDING

- It's Prestige Building
- It's Economical
- It's Versatile
- It's Distinctive

#### IT'S LOOSELEAF AND INTERCHANGEABLE

The same punch holes used for GBC Plastic Binding also fit GBC metal looseleaf binders. These handsome binders are available in a complete range of sizes up to the new "MR. BIG" 1 1/8" diameter.



INTEGRATED  
DATA

Reports

manuals

Estimate

CATALOGS

Use this Postage Paid

### AIR MAIL CARD

FOR YOUR  
FREE BOOK



Another means of maintaining sensitive control of a company is the internal auditing department. During the past decade there has been a remarkable change in the functions of internal auditing. While it had been thought of as merely a routine review of arithmetic to keep personnel free of sin, it has now developed into an effective management control.

But the most important part of this change is the fact that auditing is becoming a control on controls.

Besides watching how procedures are being adhered to and goals met, auditing is now being extended to the reporting system by which top management gets information for effective control.

For example, at the Lockheed Aircraft corporation, auditors move through the company to see that controls are in good working order.

Specifically, this is done by examining performance against plans, policies, and procedures in departments throughout the company—not merely in accounting and finance units. But how, for example, can auditors determine whether the engineering department is designing a good airplane? They can't. However, they can check adherence to schedules, quality control standards, and other administrative controls. In addition, the reports from engineering are examined to see if they are up-to-date, accurate, and complete.

This area of examining reports is one of particular interest to top management. At Lockheed, auditors examine all reports which are furnished to the management for the purpose of controlling operations. Such an examination can reveal if reports are really being put to use and if unnecessary duplicating reports are being prepared. Such a practise is particularly valuable when done on a regularly recurring schedule. Many companies launch an examination of the reporting system only sporadically. Between

the periods of examination, which are usually several years apart, reports grow up again like weeds and clutter the communications channels to the top. For example, in one well-known construction company a thick expensive monthly report on the depreciation of equipment was prepared for years for top management.

Only when a survey of the report system was finished was it discovered that the report was not really needed after all.

In fact the report round-up in this company resulted in a sharp cut-back from seventeen to three in the number actually prepared and read by top management each month.

Besides the obvious savings in report preparation expense, which frequently runs into the thousands of dollars, the top brass are faced

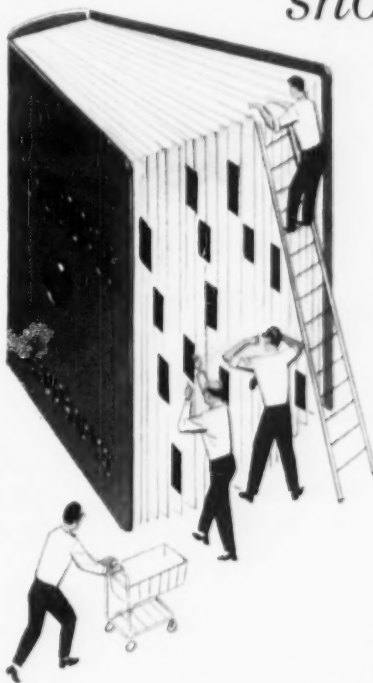
from time-consuming details which they really do not need to know. The gains really begin to multiply when top management can devote more time and thought to planning for the future that seems to be arriving more ahead of schedule every year.

To develop the auditing staff into a strong control arm for top management as at Lockheed, several things must be done. First, auditors need a real atmosphere of independence in which to work—they must be free to say anything in their studies which needs saying. And of course, auditors need the complete support of top management so that they can move freely in and out of company departments, freely talk to people on all levels, and have access to all company records. At Lockheed, the auditing staff is responsible to the vice-president and controller who report to the president. In some other companies, there is a variation on this arrangement in that the controller reports any irregularities (including those of the president) to the chairman of the board of directors.



Once started, reports to top management go on for years although no one may be using them.

## A better "marketplace" when Heinn makes "shopping" easy



Whether buyers shop in a store or page a catalog, your chances of selling them depend substantially on the supermarketing approach. Everything *must* be arranged for their convenience.

Loose-leaf catalogs, always at their best with custom-styled Heinn binders and indexing, provide "supermarket" arrangement—every item correctly classified and easy to order. Sections and sheets *stay* up to date and in sequence.

And the sheer beauty of Heinn Loose-Leaf Binders gives your catalog "package appeal"—the same force that moves customers to reach for products in a supermarket. Once your customers handle your catalog and find exactly what they need in three seconds, your sale is made!



### Sales-fashioned

Heinn Loose-Leaf Binders make your salesmen more productive, keep your product messages before dealers between sales calls, reduce order correspondence and impress your trade. Thousands of sales executives know these facts because they're Heinn customers. You can learn the sales-making Heinn plan by mailing this coupon:

Information, please: ☐ Catalog Binders ☐ Indexes ☐ Price Books ☐ Counter Catalog Platforms ☐ Salesmen's Catalog Binders (with handles) ☐ Have your representative call ☐ Send product samples the folder every salesman should read

Name \_\_\_\_\_ Address \_\_\_\_\_ Firm \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

THE HEINN COMPANY • 310 W. FLORIDA STREET • MILWAUKEE 4, WISCONSIN

Copyright 1956, by The Heinn Company, Milwaukee



## PITNEY-BOWES MAILOPENER

PITNEY-BOWES, INC.  
1561 Walnut Street, Stamford, Conn.  
...originators of the postage meter... offices in 94 cities in U.S. and Canada.

There's no more a.m. dawdling and doodling if the morning mail is opened by a Pitney-Bowes MailOpener. It's so much faster than Dora with her dagger. Saves those precious early morning minutes... gets everyone working sooner.


- This little electric model, for example, easily, safely trims a hairline edge off any kind or size of envelope... opens a whole morning's mail in a jiffy.
- There are three MailOpener models, hand or electric, for any office. Call the nearest PB office for a demonstration. Or send for free illustrated booklet.

**FREE:** Handy desk or wall chart of Postal Rates with parcel post map and zone finder.





*diamond  
bright...  
sparkling white*

# WESTON BOND

*a rag content paper for letterheads*

Give your letterhead a lift with brighter, whiter Weston Bond. Letters look cleaner, neater, more impressive against its brilliant whiteness and quality texture. Ask your printer to use it. Also available in colors, white opaque, litho finish and matching envelopes.

Write for Sample Book.  
Address Dept. DR

**BYRON WESTON COMPANY**  
**DALTON, MASSACHUSETTS**



*Makers of Papers For Business Records Since 1863*

To extend auditing to non-financial operations, it is best to move slowly and gradually. For example, auditors could examine physical inventories, as usual, and then move on to a study of material control procedures and results.

Of course, top management control activities are useful only when used in conjunction with a pre-determined plan or set of goals for future operations. Long-range plans are particularly important for effective management control in a company such as Lockheed which has undergone severe fluctuations and spiralling growth during the past fifteen years. Here's how the planning shapes up: Both sales and capital expenditures are projected for the next decade. In addition, balance sheets and profit and loss statements are prepared on a quarterly basis for the first five years and by years for the rest of the decade to come. Once approved, these plans become the gage by which performance is measured. Thus, Lockheed knows if it is flying on course. As George Steiner, Lockheed economist says, "The master plan is one of our efforts to unscrew the inscrutable."

### Digging Out Data

One of the industries in which top management has been forced largely to fly by the seat of its pants is the freight forwarder business. But now this too is being changed as firm information becomes available with the use of electronic computers.

For example, one of the major forwarding firms was being operated on a day-to-day basis without the strategic information with which would make tight control of operations possible. The information needed by top management was imbedded in the many and varied records of the company, like an insect in amber, and would be prohibitively expensive to remove by conventional methods. Consequently, the installation of an automated data system was considered with the help of consultants.

Here were some of the problems to be overcome: they'll give you a good idea of how effective electronic data processing can be in reducing a heavy undergrowth of records to usable management reports.

- The forwarder's sales volume is

## Subscription Order Form

**DUN'S REVIEW and Modern Industry**  
99 Church Street, New York 8, N.Y.

One year subscription in U. S. A. and Possessions, Canada—\$5. Elsewhere \$10.

- ☐ Payment Enclosed  
☐ Bill Me

Name \_\_\_\_\_

Title \_\_\_\_\_

Firm \_\_\_\_\_

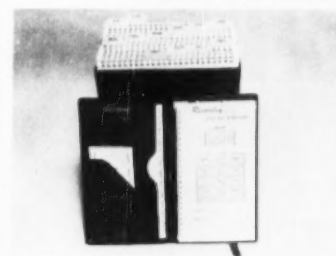
Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

10-56

## HELP Your Salesmen Sell More



Give Your Salesmen A BETTER  
MEMORY For Christmas—  
MORE SALES For 1957

**Recorday** helps them:

- Organize their time
- Keep appointments
- Keep promises
- Work effectively
- Follow through
- Remember details
- Sell more

A complete 12-Month Memo System and Work Organizer With Leather Pocket Case—Designed Especially For Salesmen.

**Used By Many Leading Companies**

Send Today for complete 12 month unit on approval, complete details and quantity prices. Satisfaction unconditionally guaranteed.

**Recorday Co.**

Dept. D

69 Harvey St. Cambridge 40, Mass.

Please send the following Complete Recorday

Units On Approval:

.....With Deluxe Brown Case \$8.50

.....With Brown Pin Seal \$6.50

Name ..... Title .....

Company .....

Address .....

City ..... State .....

Whatever your reasons for using intercom...

# You're entitled to these\* Executone extras

YOU EXPECT intercom to keep your employees at their desks more...to reduce costly and wasteful walking, waiting and interruptions...to locate roving personnel fast...to keep your switchboard free for important incoming calls...to save hours, tempers and to maintain customer good will. Yes, you expect all these, but —

Only the extras in every Executone system give you full benefits of intercom!



\* The world's most advanced engineering and design, for durable equipment as versatile as it is rugged. Voices are more distinct, crystal-clear, instantly recognizable. Executone has been far out front for twenty years—leads with more proven operating features and signalling and switching circuits.



\* A nationwide service organization, with factory-trained experts to survey your needs, install the most efficient system for you, thoroughly instruct your personnel in its use, and service equipment quickly and expertly on your premises, when needed.



\* "Chime-Matic"® signalling announces calls by soft chime and signal light. Executone is the electronic intercom that protects your privacy, that never interrupts, that lets you know who's calling, or has called—it's the system with *built-in courtesy*. These are just a few of the extras you're entitled to—and get—when you install Executone.

Why not fill out the coupon so your secretary can send it to us. It will bring you more information on the uses of Executone in your business. In addition you can receive "Talk Lines," an informative case history magazine telling how other companies profit from Executone. There's no obligation, of course.

**Don't Walk...Talk!**

**Executone**  
INTERCOM AND SOUND SYSTEMS

EXECUTONE, Inc., Dept. N 3 415 Lexington Ave., New York 17  
It sounds interesting. Send me the following—at no cost or obligation:

☐ "Talk Lines"—Case history magazine

Information on:

☐ Executone features applied to my business

☐ Services available from Executone locally

☐ Switchboard Relief & Locating Personnel

☐ Inter-Office & Plant Communication

☐ High Noise Level Coverage

Name \_\_\_\_\_

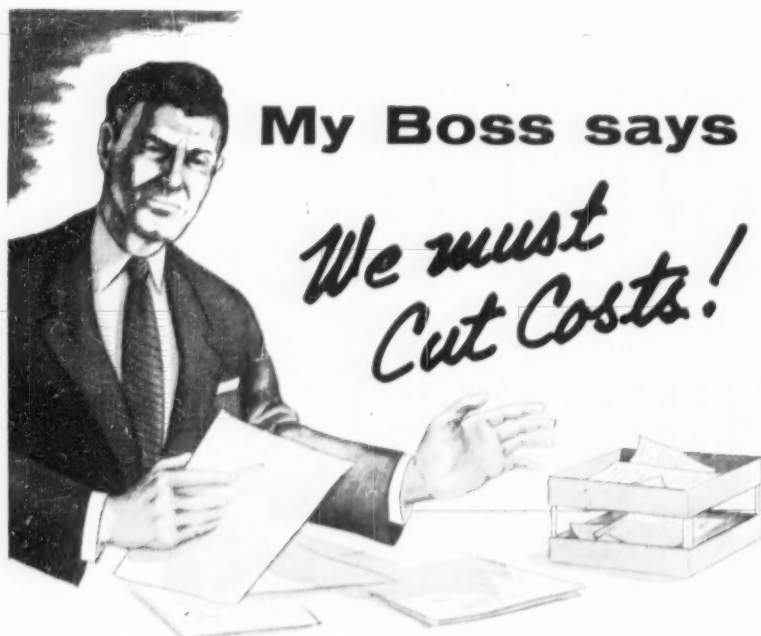
Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

In Canada—331 Bartlett Ave., Toronto





## But where do I start ?

You can start with a CALCULAGRAPH to determine all your production costs to the penny—accurately and economically. Calculagraph is the only job time recorder that AUTOMATICALLY computes, prints and records ELAPSED TIME—to the minute.

For fast, dependable cost control, Mr. Executive, investigate the Calculagraph system—it can show you where to cut costs and mean greater profits. Ask our representative to show you how.

Write today for catalog to Dept. DR

Agents in Principal Cities



SEE this CALCULAGRAPH in operation at the National Business Show, New York Coliseum, October 15-19. Call at our BOOTH No. 228A.



**CALCULAGRAPH**  
Company  
HARRISON, N. J.

THE STANDARD OF ACCURACY SINCE 1892

made up of a staggering number of small shipments, most of which are placed by small volume shippers. This of course produces a thick cluttered growth of varied papers and documents, all processed and reprocessed by hand.

- It was extremely difficult to establish sales quotas or gauge sales performance. Sales may result from the efforts of sales offices at the origin of the shipment or at the destination, or even from the combined efforts of salesmen at both ends.

- Direct costs of particular shipments were too difficult to compute by any but a sampling system.

During the feasibility study it became clear that a medium-sized computer could process all of this complex data efficiently and supply management with complete current reports on performance and costs. Properly integrated into a data transmission network, a medium-sized computer can abstract the information needed for special analysis and thus make available to management reports on the following areas:

- Sales performance—the contribution to volume and to profit of each sales group through the routine cost analysis of each shipment.
- Customer contribution—the value to the company in gross volume and in profit of the shipments of any customer.



*Very comprehensive reports are not much use if the executive who gets them cannot understand.*

Gross margin earned on each origin-destination movement, shown in summary for any reporting period and for each of the commodities handled over this movement.

Other important changes in the company's organization and methods resulted from the new data processing system. But the solution to the problem of inadequate control information was of primary concern to top management. This information will now be gained without additional cost. At the present stage of conversion, it appears that the new system will directly boost profits by cutting clerical costs 25 per cent, in addition to providing the new reports for effective management control.

## PRODUC-TROL Visual Control

*not only schedules,*  
*But* automatically checks with  
TIME, LINE and COLOR control



- Original cost and upkeep low
- Schedules and time checks operations.
- Historical record to back it up.
- Bad situations show automatically.
- Its simplicity has put it into world-wide use.
- Analyze 100 items in 10 seconds.

Effective Tools for Effective Management  
WASSELL ORGANIZATION, INC. Westport, Conn.

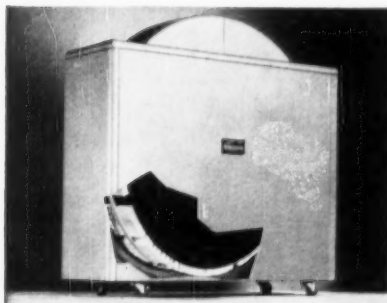
THIS SIMPLE DEMONSTRATION SHOWS YOU . . .

## Why Mosler Revo-File is leading the revolution to rotary card filing



**1. No costly transposition needed** or new cards when you change from slow-poke, time-wasting files to *Revo-File*. No key-hole punched cards needed by *Revo-File*. Just pick up your *present* cards by handfuls . . . drop 'em

into a *Revo-File* . . . and go to work! *Revo-File* is the *only* single-drum rotary card file of its type that lets you *do this*! It saves an average of \$200 in change-over costs right at the start . . . often much more!



**2. No chance of losing cards!** *Revo-File* has an exclusive, patented method of holding cards in drum without relying on holes punched in cards, or other methods of attachment which often cause wear, mutilation, and eventual "fall out" of cards from drum into base of file. (No trapdoor needed in *Revo-File*.)



**3. No limits on work speed!** Since cards are not attached, one or hundreds can be removed and re-filed instantly. Easy to place *Revo-File* in most restful working position for any clerk. Cards come to her, not vice versa. All standard and most off-size cards accommodated. Manual and automatic electric selector models.



**For big-volume card filing!** The new Mosler Roto-File can accommodate more than 80,000 cards. Has all the exclusive features of *Revo-File* . . . on a bigger scale. Electrically controlled drums rotate independently—*several* clerks can work at same time.



If you have 3,000 or more active cards which are used continuously for reference and posting, mail coupon, today!

Revo-File, Roto-File Div. • The Mosler Safe Company, Dept. DR-49, 325 Fifth Ave., New York 1, N. Y.

Please send me complete information about (check items you wish):

☐ Mosler Revo-File, world's finest rotary card file. ☐ Mosler Automatic Electric Selector Revo-File. ☐ New Mosler Roto-File for volume card-filing applications.

NAME \_\_\_\_\_ POSITION \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



The Dictabelt record  
collects your thoughts  
and turns them into action



The Dictaphone TIME-MASTER dictating machine.  
"Takes the words right out of your mind."

DICTABELT records turn fleeting ideas into action. Pick up the mike of the Dictaphone TIME-MASTER dictating machine and talk your notes when ideas strike.

Dictaphone's exclusive DICTABELT gives you dictation that is permanent—can't be erased or changed. Of course, the TIME-MASTER is the most efficient way to handle all kinds of communications—letters, memos, speeches, reports.

Unique features: DICTABELTS are unbreakable, flexible, feather-light. You mail them like a letter. Recording takes place visibly, so you can't lose your place. And the real cost of DICTABELT dictation is less than any other method.

Call the Dictaphone office near you. Or write Dictaphone, Dept. B 420 Lexington Avenue, New York 17, N. Y. Ask about our rental plan, too.

**DICTAPHONE** CORPORATION

In Canada, write Dictaphone Corp., Ltd., 204 Eglinton Ave. East, Toronto . . . In England, Dictaphone Co., Ltd., 17-19 Stratford Place, London W.1. Dictaphone, Time-Master and Dictabelt are registered trade-marks of Dictaphone Corp.



# NEW TOOLS WILL CHANGE THE PRESIDENT'S JOB

## *A Look at the Future Impact of Office Electronics*

**D**URING the past decade, a pervasive change has been taking place in the way that top executives function. It is largely the substitution of facts for guesswork, analysis for intuition, and may prove to be one of the most significant changes in modern industry.

The change is characterized by a new emphasis on planning and control—a trend which is evident in a growing number of companies. They are establishing clear, understandable goals both for the entire enterprise and for its various components.

So, the introduction of electronic data processing comes at a most convenient moment. For it will enable the key functions of planning and control to be done more economically and efficiently than ever before.

However, there is some uncertainty among company presidents about the ability of electronic data processing to cut down the amount of operating information to be read regularly. There is a persistent, recurring worry that there is now too much to read and that electronics would only increase this amount.

However, while it is true that more information will now be available from EDP, it will be more orderly and well-rounded with relationships (of sales and inventories, for example) more clearly set forth—so that a few key figures should be enough for the president to keep his pulse on the business. In addition, and perhaps more important, computers can be programmed to spot quickly the situations which need prompt corrective action.

As yet however, there has been little impact of electronic data processing on the control procedures of the president. Most computers are bought with the objective of more and fresher information for top management in mind, but during the prove-out period, the computers are put to work on routine tasks, such as producing payrolls. As with any new management tool, computers have to pay their way before new and unusual tasks can be devised for them.

Perhaps the first installation of an electronic



*Top management insists on having the new functions—such as operations research and integrated data processing—report to the upper echelons of the organization.*

computer for solely non-routine purposes will be at Moore Business Forms in 1957. The company which is itself one of the pioneers of automatic data processing is planning to put a medium-size computer to use in market planning.

A recent survey by the American Management Association of the sales forecasting methods of 297 companies revealed that about one in seven uses a high-speed computer in the analysis of data for sales forecasts. The data are produced as a by-product of billing, order processing, or some other routine task. The use of a computer to produce the sales forecast and to measure its effectiveness is largely a thing of the future.

The uses of electronic computers in business and industry can be divided into three phases. The first—when the goal is cost savings in clerical costs. This is the phase in which most large installations are at the present time. For example the Univac at GE's Appliance Park in Louisville processes inventory, payroll, and other routine tasks.

The second phase — increased efficiency through the co-ordination of company divisions,

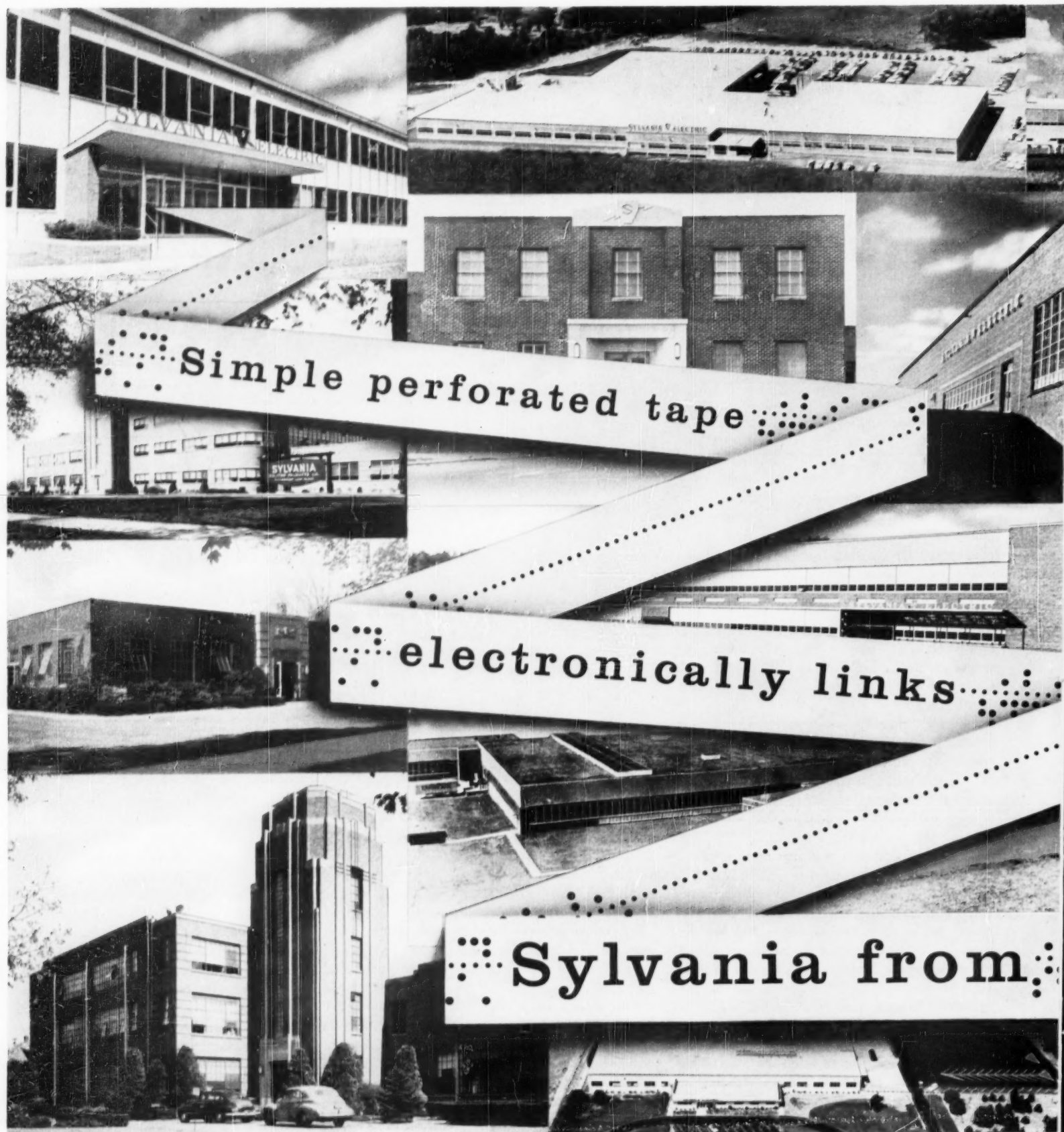
and sales, production, inventory—is still something most companies are still dreaming about. For example, Sylvania (see page 67) hopes to achieve EDP co-ordination within a few years.

But, it is in the third phase, that the really rich payoff will probably come. In this phase, computers will be put to work to solve the complex problems of business operations which are now solved by partial information and impartial intuition.

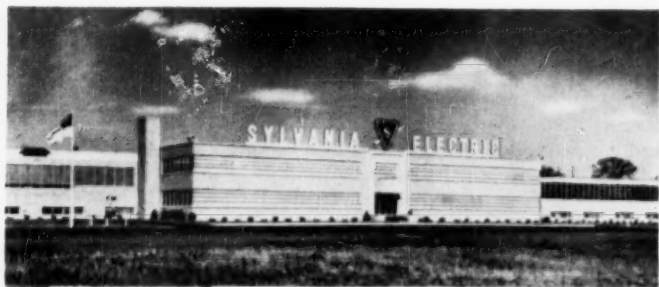
Some companies have already begun to test this third phase—operations research—but most applications have been on a limited scale. For example, computers have been put to use to determine engineering specifications, store location, or production schedules.

But the real payoff—the widespread use of computers to determine beforehand the wisdom of an important policy decision is still in the future.

Here in a few words is how operations research works. As every president knows, important decisions have almost infinite ramifications. For example, if he decides to diversify his



WESTERN UNION—



## Western Union pioneers a revolutionary concept in industrial communications

Custom-built by Western Union, a new 18,000-mile network is providing instantaneous two-way communication between any or all of 71 stations of Sylvania Electric Products Inc. In opening the nation's most advanced private wire system, Sylvania's Chairman and President, Don G. Mitchell, said it transformed Sylvania into "The first company tied completely together from a communications and data processing standpoint."

### Split-second communication in writing

In an organization the size of Sylvania, every day sees an enormous volume of both priority and routine inter-company communication. Sylvania now has split-second contact between sales, production, accounting and warehousing. The tremendous advantages of this speed are obvious. In addition, there are permanent written records of all inter-company business and extremely low unit-message cost.

### Unique integrated data processing program

At the heart of the Sylvania System is the first specially built center for integrated data processing. Located in the town of Camillus, New York, it houses a giant electronic computer. Each of the Sylvania installations sends data of all kinds to Camillus through the medium of Western Union's perforated tape. From Camillus flow operating reports for management, together with up-to-date analyses and predictions.

### Western Union's tape and your business

Perforated tape has been called the common language of office automation. It is read and understood by modern office machines, including those that use punched cards. Moreover, once a message leaves the teleprinter, it can be edited, sorted, routed, duplicated and stored. This tape, basis of a private wire system, can be an immensely valuable servant of your business, whether you use it for inter-office communication alone, or for integrated data processing as well.

Can you see advantages for your business in a private wire system? Western Union offers you a *single source for all engineering, installation and maintenance*. Why not let a Western Union specialist make an analysis of your communication needs?

coast to coast



WIRE COLLECT  
FOR FURTHER  
INFORMATION TODAY

WESTERN UNION TELEGRAM	
PRIVATE WIRE SERVICES, DEPT. D-116 WESTERN UNION TELEGRAPH CO. 60 HUDSON STREET, NEW YORK, N. Y.	COLLECT
Please send, without obligation, copy of Private Wire Booklet	
NAME .....	TITLE .....
COMPANY .....	ADDRESS .....
CITY .....	STATE .....

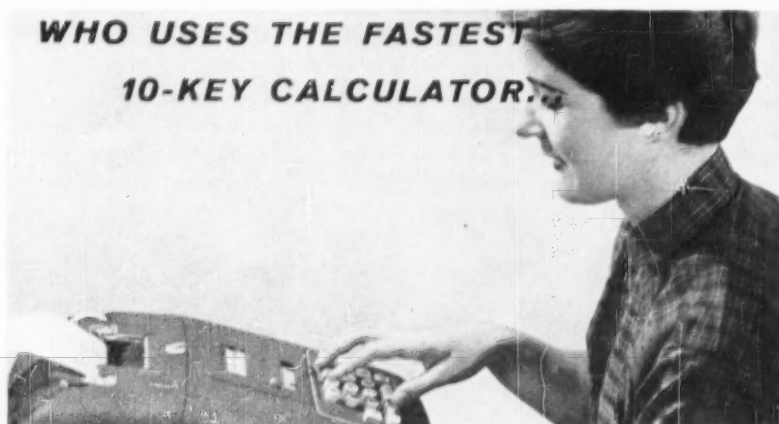
first in private wire systems



## FASTEST GIRL IN THE OFFICE IS THE ONE



## WHO USES THE FASTEST 10-KEY CALCULATOR.



## THE NEW COMPTOGRAPH 202 M



Comptograph is the new speed wonder that adds, subtracts, multiplies, even divides at 202 printings per minute. All-electric operation, quiet and highly efficient with a human-engineered keyboard for smooth, tireless operation. It gives PRINTED PROOF when you multiply: all factors show on the tape—multiplier, multiplicand, product. Fast figuring, faultless accuracy. Comptograph has four other new models to choose from. For a demonstration on *your* work, write us or look in the Yellow Pages for the Comptometer-Comptograph representative.

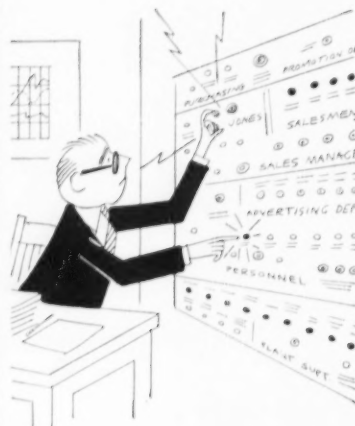
### Products by COMPTOMETER®

COMPTOGRAPH® • COMPTOMETER® • DICTATION MACHINE

FELT & TARRANT MFG. CO. 1722 North Paulina Street, Chicago 22, Illinois

product line, this will result in changes in many variables throughout his organization. OR strives to apply scientific method to the overall operations of an enterprise. This is accomplished by such techniques as linear programming—the expression of many variables in mathematical form.

Before, the advent of the electronic computer, the solution of such problems was much beyond



*Computers will show beforehand the effects of decisions on all parts of a company.*

our reach but now with machines faster than thought, executives will be able to build models of new systems they would like to develop and try them out on paper. It is somewhat analogous to the use of computers by aircraft makers who "fly" their new models in the computer by programming all the variables.

Here are some of the major management problems that computers may quickly solve in the future:

- Where to build new plants to take best advantage of freight rates, labor costs, taxes, nearness to raw materials and other factors.
- How to price a new product.
- What parts of your production should you produce yourself and what should you buy outside?
- The impact of a merger on a company.
- What is the most economical and reliable method of distribution for a new product?

In these and similar broad-gauge problem areas, most presidents operate on the basis of their own theories. Before the next decade is very old, many presidents of large and even medium-sized companies will begin to develop the habit of testing their theories on a computer to see if they really work.

How will the development of office electronics affect decentralization as it exists in many companies to-day? It seems more than likely that the recent pattern of decentralization of operations and decision-making and the centralization of planning and control will become even more pronounced in the next few years.

Control will become more sensitive through EDP and operations research while the benefits of decentralization—executive development, better community relations, better morale, greater adaptability—will be even more important in an expanding economy.

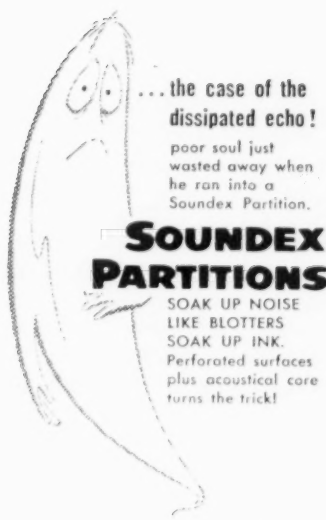
But if top management prefers a centralized company to minimize risk and to cut payroll costs and for other reasons, the installation of an automatic data processing system will strengthen such a system.

So it is clear that office automation is only a tool of top management and it can be adapted to the needs of either a centralized or decentralized company.

How will such new management tools as integrated data processing, electronic computers, and operations research change the functions of the top management in the next five years? To find out we asked several people who have done pioneering work in these areas. Here are their ideas on how you'll be doing your top management job five years from now:

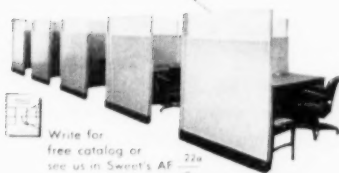
**"Management by exception has been talked about for a long time. I think it is only in the last five years or so that I have seen it really begun to be applied at all on a wide scale."**—JOHN DIEBOLD, President, *John Diebold and Associates, Inc.*

Although most office automation programs are to-day being justified through clerical savings, I think that those of us who have been most deeply involved in the business application of data processing equipment have felt for a long time (in this field that means anything over two years) that the really significant meaning of office electronics is in the area of management control. Realization of potentials in this field does not depend upon any further technological advance, but on effective use of presently available equipment, based on close analysis of management's needs.



## SOUNDEX PARTITIONS

SOAK UP NOISE  
LIKE BLOTTERS  
SOAK UP INK.  
Perforated surfaces  
plus acoustical core  
turns the trick!



Write for  
free catalog or  
see us in Sweet's AF  
22a  
Go

**GR Products Inc.**

2417 EASTERN AVE., GRAND RAPIDS, MICH.

## wisdom comes with age

**THE OLDER WE GROW**, the more we know. This is not only true of people, but of companies, too... for a company is only as wise as the knowledge of its combined staff.

**FOR 60 YEARS**, PANAMA-BEAVER has matured steadily in its program to provide an "easier office-worker life." Since 1896, the company has learned to anticipate the needs of the commercial world before they arose. Among the first to recognize the important role of Vision-Engineered products, PANAMA-BEAVER's research department developed the easy-on-the-eyes Hypoint colored carbon papers plus Lustra Colorful Inked Typewriter Ribbons—especially created to harmonize with all paper stocks and letterheads. Another achievement—the Eyesaver, Parma Pearl and the NEW Ebony Unimasters (for spirit duplicating) with tinted jackets to avoid glare, relax the eyes, relieve harsh contrast and permit faster work.

**EXCITING THINGS** have already been charted for PANAMA-BEAVER's next 60 years... as you will find out when you call your PANAMA-BEAVER man, "always a live wire!"

**PANAMA-BEAVER**  
Ribbons • Carbons  
Coast to Coast Distribution

Since 1896—"The LINE that can't be matched."  
**MANIFOLD SUPPLIES CO.**  
188 Third Ave., Brooklyn 17, N. Y.



*A great deal of the information being handled in companies to-day is not in any real sense needed for decisions by top management.*

During the last five years we have seen the emergence of long range (five years and over) planning as a management innovation of great importance. Automatic data processing is going to put a lot of teeth competitively into this innovation by making model building or "what would happen if" projections realistic and common practise. The biggest obstacle to-day to making projections of this kind realistic is the problem of taking into account all of the little variations that comprise every day reality. It is simply too big a data processing job for traditional methods. Having available equipment that can do this work automatically means that once a machine is set up—programmed—we can try many alternative levels of sales, expenditures and similar variables. Operating results under a variety of different assumptions and circumstances can thus be projected and as a result management will be in a far stronger position because it will know more clearly where it is going then than it can to-day.

What better management control means is that through automatic and high speed data processing management will have much more precise day to day information. For example, through the use of "on line" machines of the type that are just beginning to emerge (having enormous access memories) it is possible to have each transaction taken into consideration—for example, posted to inventory, accounted for in production control—as things occur or from minute to minute rather than waiting for a run of all of the information after it has occurred.

Management by exception has been talked about for a long time. I think it is only in the last five years

or so that I have seen it really begun to be applied at all on a wide scale. Automatic data processing is going to improve that situation greatly. Less top management time will be spent digging out crucial facts. Salient facts will be brought to the attention of management because it will be possible to process the data rapidly and automatically. The result will be a smaller volume of reports and figures but more meaningful information for top management.

It will be possible to use more complicated systems of control than are practicable to-day. For example, more elegant systems of inventory control will be possible. The use of such systems to-day is limited because it is necessary to assume a variety of arbitrary limits and conditions simply because it is impossible both in terms of time and cost to take into account, in the calculations, variations in all of the real figures. By having available substantial computing capacity it will no longer be necessary to make use of as many arbitrary assumptions, hence the systems will be far more realistic and less academic in their applicability.

There is no magic in this new technology and no company can be sure that it is making effective use of automatic data processing simply by setting up a committee. The mere fact that electronics is "being looked into" is no assurance that it is being used. It is a business problem and it can only be solved in terms of business control. One of the reasons, for example, that there has been as poor a use of operations research techniques thus far is that they have been applied in far too academic a manner. What is needed is a bridge between the technologi-

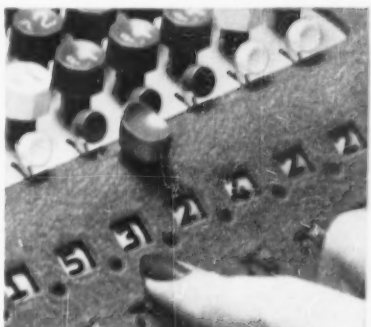
## World-famous COMPTOMETER®



**SPEED**  
WITH FLOATING TOUCH  
for quick and easy operation



**ACCURACY**  
WITH 3-WAY CONTROL  
through sight, sound, touch



**QUICK ANSWERS**  
WITH DIRECT ACTION  
for faster figure work

• For a demonstration of this high-speed adding-calculating machine on your own work call the Comptometer-Comptograph representative.

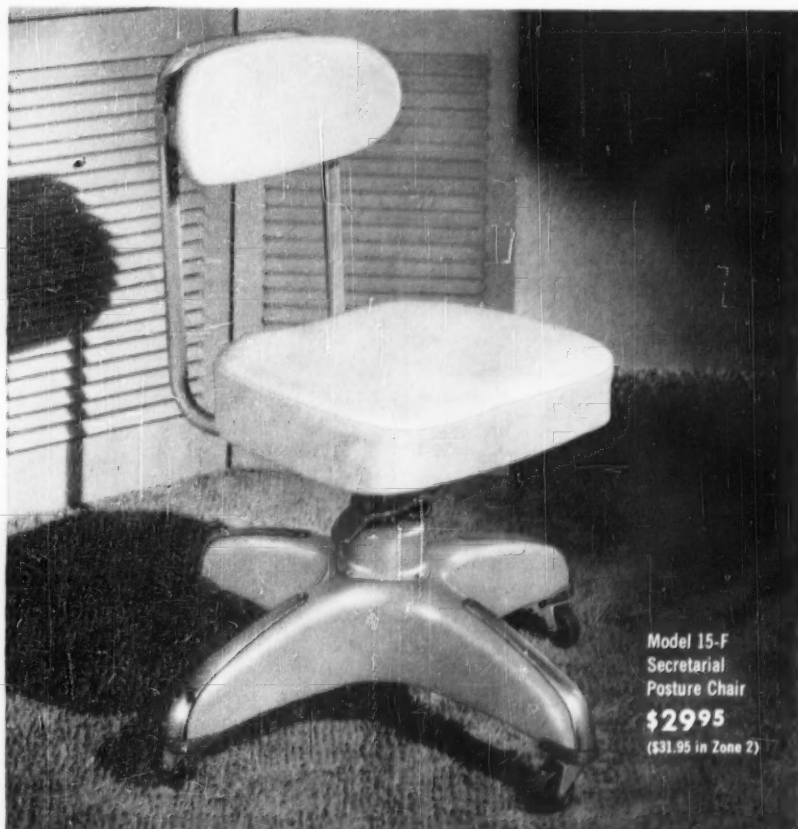
## Products by COMPTOMETER

Comptograph® • Comptometer® • Dictation Machine

FELT & TARRANT MFG. CO.  
1722 North Pauline St., Chicago 27, Ill.

# "Office fashioned"

TO LOOK BETTER, FEEL BETTER, WEAR BETTER!



Model 15-F  
Secretarial  
Posture Chair  
**\$2995**  
(\$31.95 in Zone 2)

## COSCO®

### SECRETARIAL CHAIR

You'll raise her output, and her morale, with this smart, adjustable chair by Cosco! All Cosco chairs are "Office fashioned"—designed by seating engineers and mass-produced by skilled craftsmen, to look better, feel better and wear better than other chairs costing twice as much. Your Cosco dealer is ready to prove this, with a free ten-day trial. Call now!

Find your COSCO Office Furniture dealer in yellow pages of phone book or attach coupon to your letterhead



Model 18-TA  
Executive  
Posture Chair  
**\$49.95**  
(\$52.45 in Zone 2)

Model 23-L  
General Chair  
**\$15.95**  
(\$17.95 in Zone 2)



COSCO Business Furniture offers comparable values in chairs, settees, sofas, and occasional tables.

(Zone 2—Texas and 11 Western States)  
COPYRIGHT, 1968

HAMILTON MANUFACTURING CORPORATION, Dept. DR-106, Columbus, Indiana

☐ Without obligation, I would like a COSCO Secretarial Chair on free 10-day trial.

☐ I also want free trial on Executive Chair ☐ Conference Chair

☐ General Chair ☐ Full information on COSCO Business Furniture

Firm \_\_\_\_\_

By \_\_\_\_\_

Address \_\_\_\_\_

Also available in Canada, Alaska and Hawaii through authorized COSCO dealers.

cal developments and business objectives.

It will no longer be necessary to rely as heavily upon intuitive factors in top management as it has been in the past. Instead, balanced judgment based upon precise projections will be more the rule.

"In the future the manager of an enterprise will have on his desk an inquiry set which will tell him anything he wants to know anytime about his business."—R. HUNT BROWN, President, *Automation Consultants, Inc.*

Office automation is in its infancy, whereas factory automation is coming of age. The advent of the electronic computer and integrated data processing equipment using punched tape, plus the new techniques such as operations research or scientific management, have opened entire new vistas for the office.

It must be understood that the electronic computer was not designed primarily for business problems, and neither was the concept of operations research; they are being adapted to commerce, from their original military, engineering and scientific purposes.

The present cost of the new equipment may be high, but when the situation clarifies, and mass production takes over with new components like the transistor, more and more tangible cost savings will become apparent for smaller size companies. Most of the pioneering installations of business computers have been justified from intangible benefits, such as speeding up customer service and management reports, and not from direct cost savings.

What the top executive can look for in the future is automatic accounting. This means that business data will be more and more captured at point of origin, and processed automatically on an "on line" or perpetual inventory basis through to final reports, invoices, and so on.

Another feature not originally important in scientific computation, was interrogation of data being processed. Business requires a large amount of information to be stored, and needs to interrogate and update this constantly. This demands the development of a low cost, large capacity, rapid access memory, which missing link most manufac-

turers are trying to forge. The IBM "juke box" Ramac memory is one example of this.

How long it will take to make the new equipment and techniques available to business on a more economical basis is open to conjecture, but these goals will eventually be reached. The time will largely depend on the business man; the equipment manufacturers have done a wonderful job in designing new systems, but business must give them more details of its requirements. The new machines in their childhood are even beginning to read (character recognition), are starting to write faster (page-at-a-time printing instead of line-at-a-time), and already have an IQ of a million when it comes to arithmetic. The application of operations research to business is being taken from the ivory tower to the counting house.

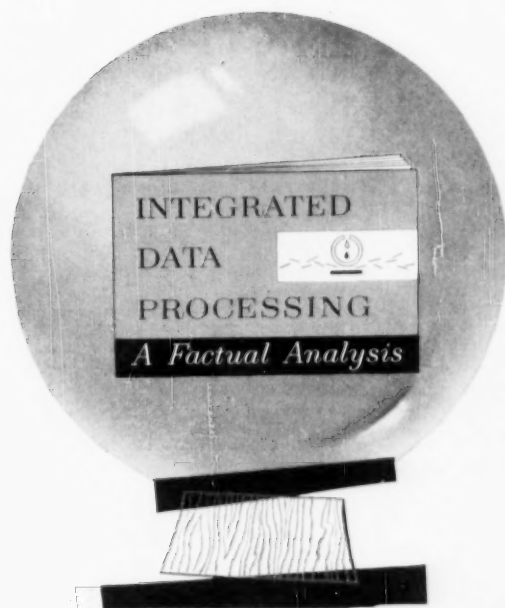
The computer was originally constructed for the batch processing of data, where input and output were small and computation very large. This is not too suitable for most business problems, where input and output are large and computation small; in addition, some types of accounting must be "on line" instead of "off line" or batching, as for example when customers are waiting in queues, such as with airline or railway reservations, savings and checking accounts, retailing, and so on.

The top executive may wish a peek in the crystal ball, and this is what he may see in the future:

1. Greatly increased savings of indirect and non-productive expenses in paperwork areas.
2. Vastly improved customer service as to time for processing orders, and so on.
3. More timely and selective management reports.
4. Beneficial use of the new equipment in medium and small business as well as big business.
5. Better internal controls from an auditing standpoint.
6. Relief from routine decisions and assistance in planning for the future, by the provisions of radar and more dials on the instrument panel of management.
7. Higher standards of living and education throughout the world, which will increase chances of peace and prosperity.

It is not inconceivable that in the





## Can I. D. P. save your company money? YOU'LL FIND THE PROFITABLE ANSWERS IN THIS FREE BOOK

Automation of your office can start with this free book. It tells you what Integrated Data Processing is, how simply it can be applied to your business, how little it will cost you, how to start and where to start your program.

It tells you how DITTO gives you Integrated Data Processing in its simplest and most inexpensive form. Regardless of whether you are concerned with processing of data

within a single department, between departments, or throughout the branches and plants of a nation-wide organization, this book is a guide to money saving and increased efficiency for you.

Below are representative examples of companies like your own which are already enjoying the benefits of DITTO Integrated Data Processing:

\*How DITTO  
I. D. P.  
saves money:

**ORDER-INVOICE**  
Rubber Goods  
manufacturer saves  
\$27,000 a year

**PRODUCTION**  
Hardware manufac-  
turer saves \$24,000  
a year

**PURCHASE-  
RECEIVING**  
Military Aircraft  
manufacturer saves  
\$50,000 annually

**PAYROLL**  
Construction Engi-  
neering company  
saves \$30,000  
annually

DATA INTEGRATED	
ON SINGLE	
MASTER ARE NEVER	
REWRITTEN . . .	



# DITTO®

\* Send for complete case histories telling how these savings are made.  
Take the First Step to Automation in Your Office—MAIL COUPON TODAY.

DITTO, Incorporated, 6844 N. McCormick Rd., Chicago 45, Ill.  
DITTO, of Canada Ltd., Toronto, Ontario  
DITTO, (Britain) Ltd., 126/128 New Kings Road, Fulham, London, S.W. 6 England

At no cost or obligation, please send us:  
☐ Integrated Data Processing Brochure  
☐ Case histories and information on how you can save us money, time and effort with DITTO I. D. P. for:

☐ Order-Billing      ☐ Production      ☐ Purchase-Receiving  
☐ Payroll            ☐ Inventory        ☐ Other

Name, Position \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_



## KELLY GIRLS Can Break Up Your Office Bottlenecks

In one-girl offices and in America's largest corporations—Kelly Girls are saving time, trouble and money.

These temporary employees are available for a half-day, a week, or more. Call in one or dozens to help you during business peaks, sick leaves, or vacations. Kelly Girls are working as typists, stenographers, filing clerks, switchboard operators, calculator operators, receptionists, and general office help. They work right in your office on our payroll. You are invoiced for only productive hours. *Each is bonded, tested and guaranteed.*

Call today for a Kelly Girl tomorrow.

Akron FR. 6-3512  
Baltimore MD. 5-3199  
Battle Creek WO. 2-8486  
Birmingham SA. 2662  
Buffalo MA. 2252  
Cincinnati MA. 1-3436  
Cleveland TO. 1-1991  
Columbus CA. 1-7116  
Dallas WA. 3981  
Denver CO. 6-1623  
Des Moines AT. 2-8254  
Detroit WO. 3-6510  
Fort Wayne EA. 5669  
Fort Worth EO. 2-2535  
Grand Rapids GL. 9-6324  
Hartford JA. 7-1195  
Houston CA. 2-7785  
Indianapolis ME. 5-4400  
Kalamazoo S. 4247  
Kansas City RA. 1-9229  
Los Angeles TR. 3701  
Compton NE. 6-3110  
Louisville CL. 5875  
Memphis JA. 7-2722

Miami FR. 4-6450  
Milwaukee BR. 3-7340  
Newark MA. 3-4571  
New Orleans CA. 7151  
Oklahoma City CE. 2-8912  
Philadelphia RI. 6-1322  
Pittsburgh EX. 1-3222  
Portland, Ore. CA. 2-2332  
Rochester, N.Y. BA. 1315  
Sacramento GL. 3-2800  
San Antonio CA. 7-1217  
San Francisco SU. 1-0285  
San Jose CY. 7-5768  
Seattle SE. 5098  
Springfield, Mass. RE. 9-8845  
St. Louis CH. 1-2608  
St. Paul CA. 4-3394  
Syracuse J. 2102  
Toledo OH. 6-2211  
Tulsa LO. 5-5830  
Washington ST. 3-5448  
Wilmington OL. 5-6246  
Youngstown RI. 4-1206

## RUSSELL KELLY OFFICE SERVICE



Headquarters, Free Press Bldg.,  
Detroit 26, Michigan  
WORLD'S LARGEST SERVICE SUPPLYING  
WHITE COLLAR GIRLS EXCLUSIVELY

future the manager of an enterprise will have on his desk an inquiry set, which will tell him anything he wants to know anytime about the status of his business. On the other hand, this Utopia will not be reached without considerable research and study on the part of the executive. He should not wait for the electronic manufacturer to solve his problems unaided, but should take an active part in the work, otherwise a more progressive competitor may get the advantage.

**"A true controller will begin to emerge—a man who has the authority and responsibility of keeping the company operations on the course charted by management."**—RICHARD G. CANNING, Partner Canning, Sisson and Associates.

At the present time, company top managements throughout the country are inclined to look upon electronic data processing as something like a "super punched card" system. As such, they see it primarily as a case where the present punched card equipment is replaced by the faster, more powerful electronic machines. The main justification for installing the new machines is a reduction of costs, both from punched card rental and clerical salaries.

Within five years, company top managements will most certainly begin to face up to the full potentials of EDP. While there are many effects which EDP will have on an organization, there are at least three which will be of major significance to top management—far more important than the relatively small dollar savings:

1. EDP provides a tool by which management can obtain more careful planning of future company wide operations, by analyzing in detail the consequences of alternative courses of action.

2. EDP will gradually call for a reorganization of lines of authority and responsibility within a company; large clerical departments will tend to disappear, and some departmental lines will become less distinct; decentralization of operations and more centralization of control can continue.

3. A "true" controller will begin to emerge; a man who has the authority and responsibility of keeping the company operations on the course charted by management, in-

cluding both physical and financial aspects.

Each of these effects should result in a better competitive position for the company; to show why would require a more detailed discussion than is possible here. Perhaps a few words about the third will serve as an example.

Electronic data processing allows for the consolidation of files in large company operations, something not practical in manual or punched card systems. For example, the production control department maintains an inventory file showing the physical count of the items in stock and on order. The accounting depart-



**Be sure you need data quickly before paying extra cost of speed.**

ment also maintains inventory records, primarily to show the dollar valuation of the various inventories. In the controlling of company operations, both the production status and the costs should be considered, but in a practical sense, it is almost impossible to consider both of these aspects at the same time when the information is split in two files.

With an electronic system, and properly designed procedures, it becomes practical to consolidate these two inventory files. Then when some activity takes place in the shop, it is possible for the electronic machine to consider the effect on both production costs, and bring any exceptions to the attention of the one "new" controller.

Since company operations would be more effectively controlled, this would allow the company to adjust to market changes more rapidly, which would result in a self improved competitive position.

The very fact that competitors can use EDP to gain a competitive advantage will cause top management to really investigate the full potentials of this management tool in the not-too-distant future.

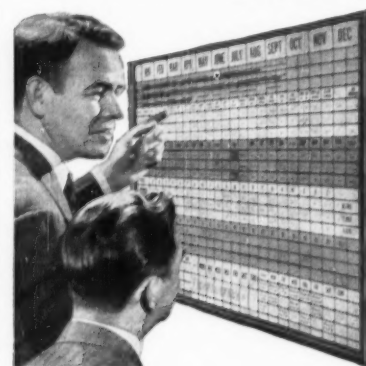


... absorb sound thus permit placement of personnel much closer together than in open offices ... with more comfort too! And you gain much more productive space.



Write for free catalog or see us in Sweet's AF 224 Gc  
**GR Products Inc.**  
2417 EASTERN, S. E.  
GRAND RAPIDS, MICHIGAN

## You Get Things Done With Boardmaster Visual Control



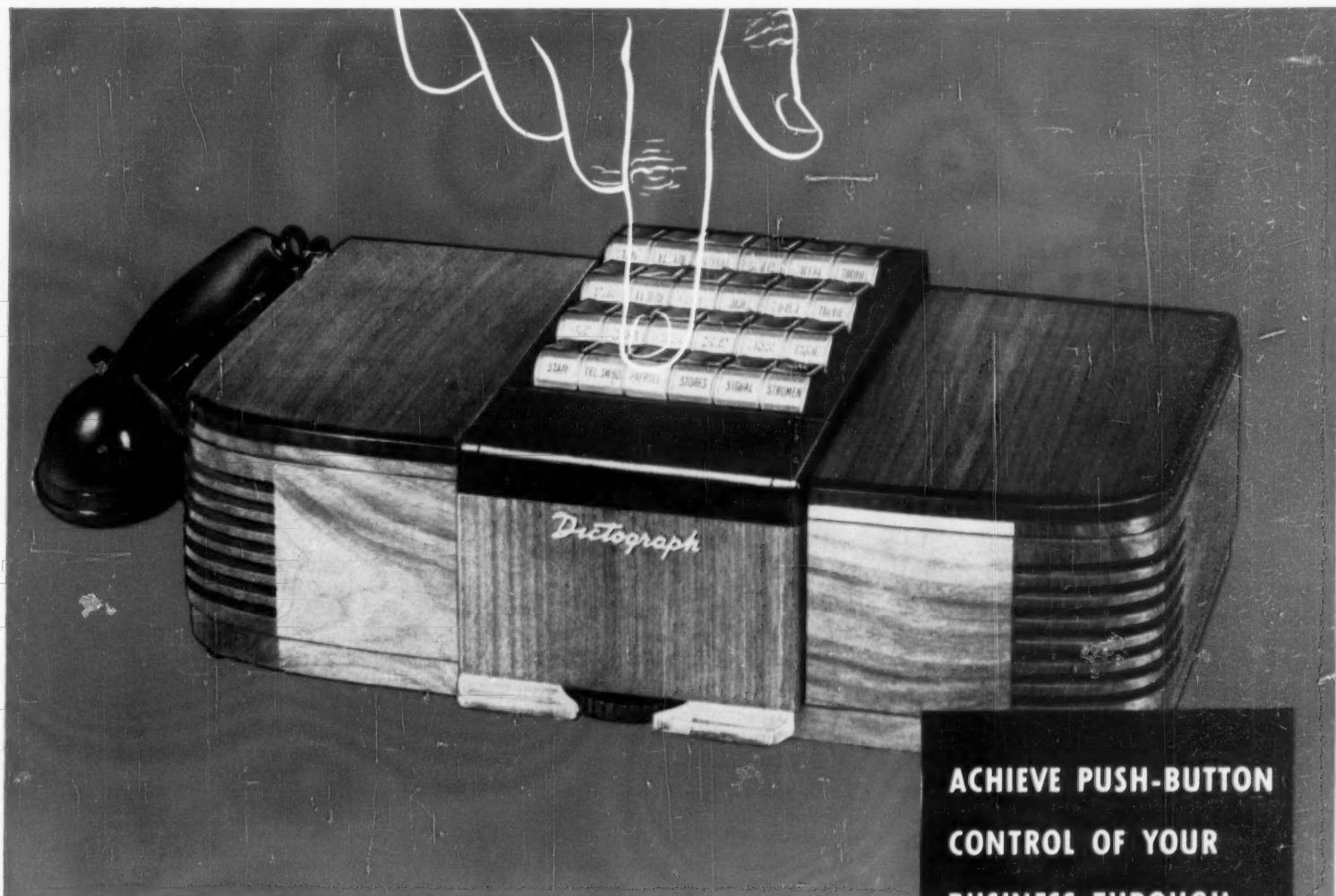
- ☆ Gives Graphic Picture of Your Operations — Spotlighted by Color
- ☆ Facts at a glance — Saves Time, Saves Money, Prevents Errors
- ☆ Simple to operate — Type or Write on Cards, Snap in Grooves
- ☆ Ideal for Production, Traffic, Inventory, Scheduling, Sales, Etc.
- ☆ Made of Metal. Compact and Attractive. Over 50,000 in use.

Complete price **\$4950** including cards  
**FREE** 24-PAGE BOOKLET NO. D-400  
Without Obligation

Write for Your Copy Today

**GRAPHIC SYSTEMS**

55 West 42nd Street • New York 36, N. Y.



**ACHIEVE PUSH-BUTTON  
CONTROL OF YOUR  
BUSINESS THROUGH  
COMMUNICATION**

# DICTOGRAPH

*...business control through communication*

## WHY DO 89% OF THE NATION'S BUSINESS LEADERS USE DICTOGRAPH?

And why do tens-of-thousands of other successful businesses depend upon Dictograph? Because they realize the efficiency of their business operation depends on the efficiency of their control. Good management is synonymous with good control... the more efficient the control the more efficient the management. One example alone of good management is the sharp decrease in costly mistakes and wrong decisions.

Dictograph push-button communication assures fast decisions, soundly made, because they are based on current, accurate information.

## IT HAS INCREASED PRODUCTIVITY OF THEIR BUSINESS STAFF BY 40%

It will increase the productivity of every member of your business staff by 40%.

## IT HAS REDUCED THEIR TELEPHONE COST BY AN AVERAGE OF 30%

Dictograph communication eliminates the need for unnecessary call-backs that total on the average of 30% of your telephone costs.

America's greatest business leaders are personally responsible for the perfection of the 1957 Dictograph. For the past 54 years they and many thousands of other successful business men have, by their specific requests, shaped this unique management tool into the ideal method for business control through communication.

Because Dictograph is doing this outstanding job for businesses, across the country, let us show you how it can do the same for your business operation. Write today for free information.

DICTOGRAPH PRODUCTS, INC.  
Jamaica 35, New York

Gentlemen: I am interested in Dictograph... business control through communication. Please send me additional information.

Name

Title

Address

City  State

**DICTOGRAPH PRODUCTS, INC. • JAMAICA 35, NEW YORK**



# WHAT PRESIDENTS WANT IN THEIR REPORTS

## *How to Produce Top Management Reports*

### *That Bring Action Faster*

**T**HE presidents of most companies are faced each day with a mounting stack of papers on their desks—operating reports, special studies, reviews of trouble spots, sales forecasts, budgets, proposals—the list seems endless. Yet because of the very accumulation of facts, top management is aware to-day as never before of the gaps which still exist in their knowledge.

To fill these gaps, executives seek more information although they can barely keep abreast of the current crop of reports. Some seek faster information—and in many industries this seems to be part of the answer. But what is really needed is an efficient, dependable way to separate the relevant from the irrelevant.

Here are the approaches which are paying off in many companies:

**Top management reports should be comprehensive yet not loaded with details.**

Companies are discovering that one monthly summary report of operations is much more valuable than a string of straggling reports—each of which tells only part of the picture. The report should include all essential facts and should point clearly to subsidiary reports for details.

**Reports should stress comparisons.**

Operating data in themselves are meaningless—they should be compared with budgets, performance, and previous periods. Companies are getting results by showing each month's operations as related to the expected performance.

**The principle of management by exception should be foremost in preparing reports.**

Since reports are prepared for just one purpose—to bring about action, those situations which call for quick executive action should be highlighted. The president's precious time can be saved by showing deviations from plans in terms of percentages—thus saving him the effort of clerical computations.

**Reports should be interpretive.**

Not only the results but also the causes of operating results should be included. This frees the president from spending time in asking why and enables him to get on with the corrective

action. For example, if gross profits are slipping, the exact reason—rising costs, different product mix, or whatever—should be indicated.

**Situations which need corrective action should be clearly highlighted.**

Reports should really be charts for diagnosis. If the president receives long tables of information without pinpointed trouble spots, the loss to the company multiplies. His harried hours are wasted as are the costs of preparing the data. But in addition, the necessary corrective action is delayed, perhaps until it is too late.

**Reports should indicate what's ahead.**

Expectations of unusual situations—such as rising costs or slipping sales—should be included so that quick action can be taken.

**Reports should be as fresh as possible.**

Late reports are little better than none at all. As the time lag between operations and reporting diminishes, the opportunities for profits increase. Most companies which use the monthly summary of operations, precede it with a flash report of general results.

**Special reports should be prepared in accordance with a firm schedule.**

Special reports are produced to investigate trouble spots which show up on the regular operating reports. Unless these special reports are produced quickly and on schedule, situations can really deteriorate.

**The form of top management reports should be standardized as much as possible.**

For example, summary reports for a diversified company should be the same for all divisions and for the over-all company, for easier comparisons.

**Reports should be accurate.**

But it is better to estimate one subsidiary figure than to delay the entire report.

**Reports should present information in the form of narrative, tables, and charts.**

Various members of the top management team prefer data in different forms and besides it aids mental digestion to show the same data several ways. Both the form and content of



*Too much emphasis on reports causes supervisors to neglect the actual job while they strive to make a good showing on paper.*

reports should be under constant improvement.

Companies are turning increasingly to visuals to get information to top management. Some maintain extensive chart rooms where top management can inspect the progress of the company as on an instrument panel.

When preparing charts, it is wise to remember not to load too much information on one chart. Nor should data relationships be shown for only a few months. Many companies are setting up five-year charts of their most significant data to be able to grasp growing trends.

They have learned that presenting statistical information visually almost changes the nature of the data for it results in clearer communication of shifting and complex relationships.

Finally, remember that reports are not only a means of control in themselves but they also reflect the effectiveness of other control tools, such as budgets, industrial relations, auditing, standard costs. Nevertheless, don't let reports become an end in themselves. For too much emphasis on reports to top management causes supervisors to neglect their actual jobs while they strive to make a good showing on paper.

Memory in the millions...

Now—

"SINGLE STEP"  
PROCESSING...

A REALITY  
WITH IBM'S

**RAM 650**  
(RANDOM ACCESS MEMORY)

You're looking at an ingenious set of magnetic disks, heart of the revolutionary new IBM RAM 650 Data Processing System.

Storing from 6 to 24 million digits, the whirling disks give you, for the first time, an entirely fresh approach to your problems of data maintenance and storage:

RAM means, first, *Random Access Memory*—a storage instrument permitting you to reach any fact almost instantly, without searching or sorting, and to get immediate, automatically typed answers to your queries.

RAM also makes possible "Single Step" processing, the simultaneous processing of transactions *as they occur*, permitting you to update all related sales, inventory and billing records at once. Your facts-on-file are forever current.

The consequences? This new wonder tool for management gives your record keeping greater speed, range flexibility and economy than ever before possible.

To learn how RAM 650 can help your own business, call your local IBM representative.

**IBM**

**DATA  
PROCESSING**

International Business Machines Corp.  
590 Madison Avenue, New York 22, N. Y.

DATA PROCESSING

ELECTRIC TYPEWRITERS

TIME EQUIPMENT

MILITARY PRODUCTS

# How Borden Company Saves WITH Flexowriter® PUNCHED PAPER TAPE SYSTEMS



The Borden Company began nearly a century ago with the founding of the New York Condensed Milk Company, by Gail Borden, inventor of the condensed milk process. Today, it is the fifth largest food processor in the United States.

**SAVES ON LETTERWRITING** An organization of such size needs speedy interdepartmental communication and the elimination of repetitive typing wherever possible. Using a battery of Commercial Controls' Flexowriters, illustrated above, Borden does away with repetitive typing of form letters. The letter is typed only once. Simultaneously, a punched paper tape is prepared that will actuate the same or other Flexowriters. After the address has been filled in by the operator, the Flexowriter types the body automatically at the rate of 100 words per minute. On Borden sales letter applications, Flexowriters cut the cost 50% compared to the former method. On one letter writing job alone, Borden has saved almost \$13,000 using the Flexowriter.

**SPEEDS COMMUNICATIONS** Borden also uses Flexowriter punched paper tape to speed communications between its offices throughout the country. As the message is typed on the Flexowriter, a tape is punched simultaneously that will actuate wire transmitting equipment. According to Borden, this system saves messenger pick-up time, is faster for the sender, and more accurate because the message has to be typed manually only once.

Borden is just one of hundreds of firms large and small cutting paperwork and data processing costs with Flexowriter. Let us show you how Flexowriter can do the same for you. Why not mail us the coupon below today for complete information.



Flexowriters in Borden's Communications Department

MAIL THE COUPON NOW FOR COMPLETE INFORMATION



Sales and service offices listed in classified telephone directory under "Typewriters—Automatic."

## COMMERCIAL CONTROLS CORPORATION

Subsidiary of Friden Calculating Machine Co., Inc.

Dept. DR-106, 1 Leighton Ave., Rochester 2, N. Y.

☐ Send folio "How Flexowriters Integrate Data Processing."

☐ I would like to see a FLEXOWRITER demonstration.

☐ We are interested in FLEXOWRITERS for \_\_\_\_\_

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

## COMPUTERS call for common sense

WILLIAM H. SEAMAN and H. JOHN ROSS  
Seaman and Company

*Pitfalls you should be aware of in streamlining  
your flow of information to the top.*

"PERFECTION is finally attained not when there is no longer anything to add, but when there is no longer anything to take away," should be inscribed on the wall of every executive office. It applies particularly to office procedures and routine.

Many companies that have been adding new office methods regularly still use clerical routines that were outmoded years ago. In virtually all clerical functions, economies can result from applying cost reduction fundamentals. The most important is "Simplify."

The approach of the near-automatic office should be greeted, but with tempered enthusiasm. Drudgery will be eliminated and costs reduced, but progress occurs only if essential first steps are taken.

Without simplification, the introduction of electronics into clerical functions will only tend to perpetuate inefficiency. Unnecessary data will be processed and reams of reports will be ground out. But to continue extravagant practices just because they can be done at high speed is not efficiency.

A multi-plant company with numerous sales offices set up an order-transmission system that electronically linked all plants and offices. Orders that were received before 3:00 PM each day were in the plant that same day. What speed! But the plants normally worked on a two to three months delivery basis. Be sure you need speed before you buy it. Costs are usually in direct proportion to speed achieved.

Another feature of the new equipment is the ease and speed with which it can turn out extra copies at virtually no additional cost. However, duplication should be avoided wherever possible even if someone will do it "free." This "almost free" psychology has hypnotized many companies into starting the flow of data into top management channels where it received very expensive attention. A large share of the total cost of paperwork often comes from the end-use of the paper rather than from its mere creation.

Along this same line are the "by-product" reports that automatic machines can produce. Valuable control and administrative reports not previously available can be turned out at little or no additional expense by electronic equipment. They can also turn out records of little or no value.

An executive of a large company with a substantial installation of mechanized record equipment recently said, "It hasn't saved us any money, but we have a whale of a lot of information tied up in those cards." Then he added with a wry grin, "If we ever want to use it." In five years little of the locked-up information available "at no extra cost" has ever been called for.

The elimination of transcription errors through mechanical reproduction is also a strong selling point. Machines usually make fewer mistakes than humans, but they too slip occasionally. That is why all good systems have independent checks on their accurate functioning. However, the highest accuracy is generally achieved in systems designed to do no more rewriting—than necessary.

Keep in mind that: (1) Applying the fundamental of clerical cost reduction often results in savings amounting to 50 per cent and more of the present workload without adding expensive equipment. (2) Unless the present routines are reduced to lowest possible costs, no valid basis exists for evaluating office automation proposals.



# Now! Desk Top Copying Machine Gives You Direct Copies in Seconds!

*Makes up to 300 Copies Per Hour at a Cost of Less Than 1¢ Each for Materials!*

*No Stencils! No Masters! No Negatives! No Messy Inks! No Vapors!*



## Eliminate Costly Labor, Delays, and Errors of Manual Copying in Paperwork Operations!

It's here! The high-speed, compact copying machine that turns out exact, black-on-white copies of anything typed, written, or printed on ordinary translucent paper—in seconds! Copies originals 11 inches wide by any length. Makes up to 300 copies of different letter size originals hourly. Absolutely clean, quiet, and odorless. Can be operated by any of your personnel.

The Copyflex Model 100 will save you time and money in almost any type of paperwork operation. Use it to set up fast, accurate one-writing systems for order-invoicing, purchasing-receiving, and similar systematized operations . . . for specialized legal, accounting, and engineering copying . . . for general copying. Mail coupon today for complete information on Copyflex.

# BRUNING

Copies anything typed, written, printed or drawn on ordinary translucent paper—in seconds.

## Copyflex

*Specialists in Copying Since 1897*



Charles Bruning Company, Inc., Dept. 101-DR  
4700 Montrose Avenue, Chicago 41, Ill.

Please send me more information about the Bruning Copyflex Model 100.

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_

CHARLES BRUNING COMPANY, INC., 4700 MONTROSE AVENUE, CHICAGO 41, ILLINOIS

In Canada: Charles Bruning Co., (Canada) Ltd., 105 Church Street, Toronto 1, Ontario



THE INDUSTRY THAT SERVES ALL INDUSTRY



**"Nationals save us \$60,000 a year...  
return 50% annually on the investment."**

—KOPPERS COMPANY, INC., Pittsburgh

"We use National Accounting Machines on a wide variety of applications, such as: Payroll Writing including Labor Distribution and Government Reports; Accounts Payable including Vouchering, Check Writing and Distribution; Accounts Receivable including Bank Deposits and Age Analysis; Sales Analysis by Product; Cost Analysis, Cost Reports and other financial statements; Stores

Disbursement Distribution; and Cost Ledgers and General Ledgers.

"We estimate that these Nationals save us \$60,000 a year, returning us 50% annually on the investment. Another advantage is that simplicity of operation and automatic features make it easy to train operators."

*Earl Bury* Vice President, Finance

**THE NATIONAL CASH REGISTER COMPANY, DAYTON 9, OHIO**  
989 OFFICES IN 94 COUNTRIES

**DIVISIONS OF KOPPERS COMPANY:**

**CHEMICAL:** Plastics, chemicals, adhesives and dyes.

**ENGINEERING & CONSTRUCTION:** Design and erection of chemical-recovery coke plants, blast furnace and open hearth plants, and chemical plants.

**GAS & COKE:** Blast furnace, foundry, industrial, and domestic coke.

**METAL PRODUCTS:** Industrial gas cleaning equipment, couplings, piston rings, fans, gas apparatus, paper box fabricating and printing machinery and sound control equipment.

**TAR PRODUCTS:** Chemicals and coal-tar base protective coatings, roofing, road materials, creosote, moth preventives, and insecticides.

**WOOD PRESERVING:** Pressure-treated wood products for railroad, utilities, industry, agriculture and the home.

Your nearby National representative will gladly show how much your business can save with Nationals.

TRADE MARK U.S. PAT. OFF.

**National**

ACCOUNTING MACHINES

ADDING MACHINES • CASH REGISTERS

## DIAGNOSE YOUR CONTROL PROBLEMS

### Start with this checklist

*Most major executives will not be able to nod*

*"yes" to more than one-fourth of these questions.*

- ☐ Have you thought about the kind of information top management will need a year or two years from now?
- ☐ Are you taking steps to get that information?
- ☐ Has your company clearly distinguished between the responsibilities of the president and the chairman of the board in order to avoid possible conflict and overlapping?
- ☐ Do you insist that your subordinates inform you of only those decisions which deviate from prescribed standards?



- ☐ Do you have a good general idea of the clerical operations in your company, so that you realize what information you can get quickly?
- ☐ Do you generally have enough significant information to avoid delaying decisions?
- ☐ Do you make a consistent attempt to relieve major executives of minor tasks which may be cutting into their time? For example, the job of computing percentages between groups of data on an operations report.
- ☐ Can you generally ask for and receive a special report as quickly as you would like?
- ☐ Have you analyzed all the reports you receive regularly to find out how many are really necessary?

- ☐ Do you have a continuing program of improving the information which goes to top management?
- ☐ Do you follow up your top management meetings with memos on agreements and recommendations to all those concerned?
- ☐ Before considering integrating data processing for your company, did you analyze the information needs of top management?
- ☐ Do you avoid assigning both a staff and line area of responsibility to the same top executive?
- ☐ Have you made a serious effort to apply the concept of "management by exception" to the reports which you receive regularly?
- ☐ Have you thought about the importance of "management by exception" to integrated data processing in your company? Electronic computers can be programmed to spot exceptions quickly.
- ☐ Have you made an attempt within the last two years to reduce the number of people who report directly to you?
- ☐ Have you made plans to review the top-level organization structure as certain growth points are passed?
- ☐ Have you set up a formal system to backstop each major executive with a replacement if he is needed?
- ☐ Have you ever suspended all reports to find out how many were really needed?
- ☐ Have you thought about less expensive ways to get the same information?

- ☐ Has the responsibility for the operating reports to the president and to major executives been centered in one group?
- ☐ Have you thought out both the short-term and long-range objectives for your company?
- ☐ Do you have a good idea of the position in your industry your company will hold two years from now?
- ☐ Do you as president receive your monthly profit and loss statement by at least the middle of the following month?
- ☐ Does it spotlight quickly the variations from plans so that you can take prompt corrective action?



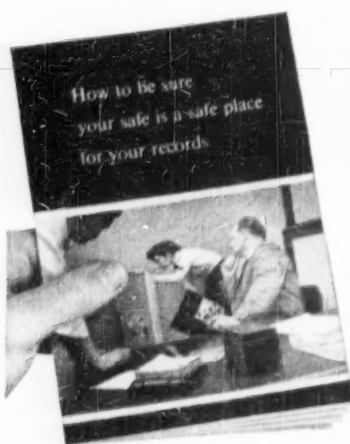
- ☐ As president, have you systematized your own personal efforts to keep track of data for decision making? Some presidents still operate from the backs of envelopes.
- ☐ Is your organization chart up-to-date?
- ☐ Does your organization chart realistically show the relationships between top management and those reporting to them?
- ☐ Do the reports you receive as president meet most of the requirements listed on page 96?



# FREE!

## "How to be sure your safe is a safe place

### FOR YOUR RECORDS"



#### NEW 24-PAGE MOSLER BOOKLET TELLS YOU

- what makes some safes dangerous
  - how much protection to expect from a fireproof building
  - what records should get priority in a small safe
  - what's needed to collect fully on fire insurance
  - what special precautions to take with cash
  - what to look for in buying a new safe
- and answers to dozens of other vital questions.

**FREE! Mail Coupon Now!**

**The Mosler Safe Company** Since 1848

DEPT. DR 77, 320 Fifth Avenue, New York 1, N.Y.

Please send me FREE booklet described above.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

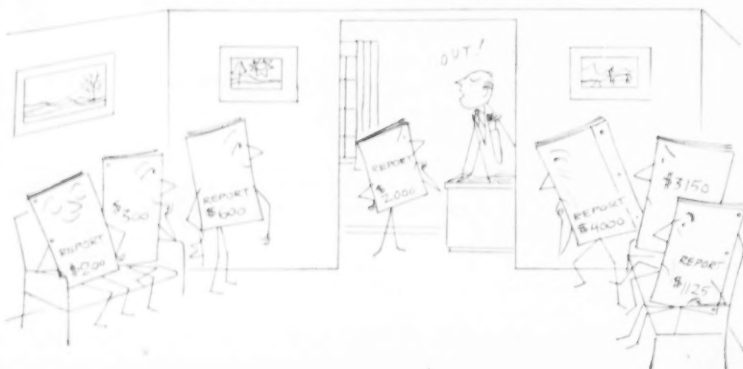
ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_ STATE \_\_\_\_\_



- ☐ Do you schedule regular top management meetings to discuss current operations?
- ☐ Can you tell, without stopping to count them, the number of the levels of authority in your company?
- ☐ Have you examined the possibility of reducing the number of levels of authority in your company?
- ☐ As the president of your company, do you spend more time in planning how to reach your programmed goals than in putting out "brush fires?"
- ☐ Do you refrain from assigning more than one area of responsibility to each major executive?
- ☐ When two areas of responsibility are assigned to an executive, do you make sure that they are related? For example, advertising and public relations.
- ☐ Does each of your middle management people report to only one major executive?
- ☐ Does your company have a flow chart of information that goes to top management?
- ☐ Is the flow chart up-to-date?
- ☐ Have you an approximate idea of what you are paying for each of the regular reports you receive?
- ☐ Do you prepare agendas for your top management meetings?
- ☐ There can be no effective control without understandable standards of performance. Have you established performance standards for most departments during the past three years?
- ☐ Have you attempted to measure the cost of fresher information?
- ☐ Have you compiled a list of all reports that go regularly to top management?
- ☐ Have you attempted to standardize the form of reports to top management?
- ☐ Have you attempted to measure the competitive advantage you would gain by getting information on sales a week earlier?
- ☐ Do you have a standard operating procedure for reviewing the reports of major executives who leave the company, before their successors move in and continue the system?
- ☐ Do you know that the cost of making a decision generally rises the further away it is made from the point of application?
- ☐ Has your company begun to separate the two functions of processing and interpreting data?
- ☐ Are you sure that your top executives are not overworked?



### SITUATION WANTED!

...in offices too noisy for ordinary movable partitions!

### SOUNDEX PARTITIONS

soak up noise like blotters  
soak up ink... provide positive noise control!

Write for free catalog or see us in Sweet's AF 22a Ga

**GR Products Inc.**  
2417 EASTERN, S. E.  
GRAND RAPIDS, MICHIGAN

it takes a *System\** to SAVE FILING

★ space ★ time ★ money

Companies everywhere are gaining additional space with this new filing system that can double the capacity of your present filing department! Besides space-saving, filing is faster, easier, more efficient and more accurate — all at great economy in cost and operation.

### Visi-Shelf FILING SYSTEM

Protected by U.S. Patents

"TWICE AS MANY RECORDS IN THE SAME SPACE" or "SAME AMOUNT OF RECORDS IN HALF THE SPACE!"

Write Today for Free Survey Questionnaire and Terminal Digit Filing Manual

**Visi-Shelf File, Inc.** DR-10  
105 Reade Street  
New York 13, N. Y.  
Please send the following:  
File Survey Form  
Manual on Terminal Digit Filing  
Catalog & Name of nearest distributor

Name \_\_\_\_\_

Firm Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

# Now! The only one-step, All-Electric Copy Maker!

PRODUCT OF  
**3M**  
RESEARCH



**Make copies directly  
from your originals *without* chemicals or negatives  
in just 4 seconds by electricity alone!**

Now you can make 4-second copies of confidential executive letters and business data without any material leaving your office! *This is All-Electric copying . . . and only the beautifully styled THERMO-FAX "Secretary" Copying Machine offers it!*

*This exclusive All-Electric process eliminates all chemicals, negatives, fumes or liquids . . . copies are made directly from*

*your originals in one simple step. You get copies in 4 seconds for as little as 4½¢ per copy, made in ordinary office light. You get copies of the things you need most right when you need them most! Make a date now to find out how the money and time-saving benefits of All-Electric copying can serve your office. Call your local dealer or send coupon below for complete details now.*

THE  
**Thermo-Fax**  
COPYING MACHINE  
STORY



The terms THERMO-FAX and SECRETARY are trademarks of Minnesota Mining & Mfg. Co., St. Paul 6, Minn. General Export: 99 Park Avenue, New York 16, N. Y. In Canada: P. O. Box 757, London, Ontario.

Minnesota Mining & Manufacturing Company  
Dept. HQ-106, St. Paul 6, Minnesota

Send complete details on the money-saving, time-saving All-Electric THERMO-FAX Copying Machine.

Name

Company

Address

City  Zone  State

## Ever been embarrassed?

- By having your mail arrive at its destination "Postage Due"? Maybe annoying prospects and customers? Happens every day.
- A worn out, inaccurate mail scale can lose goodwill if it underweighs. And waste postage if it overweighs. Play safe with a Pitney-Bowes scale!
- A PB scale with high precision, automatic pendulum mechanism, registers instantly, gives the exact weight in fractions of an ounce.
- Big hairline indicator shows the postage required. Markings, widely-spaced, are easily read. Save time as well as postage.



- Six PB models, including a parcel post model up to 70 lbs. Ask the nearest PB office to show you. Or write for free illustrated booklet.

**FREE:** Handy desk or wall chart of Postal Rates, with parcel post map and zone finder.



### PITNEY-BOWES Mailing Scales

PITNEY-BOWES, INC., 1536 Walnut St., Stamford, Conn.

Made by the originators of the postage meter... offices in 94 cities in U.S. and Canada.

## Seat More People in Less Space!



- SCHOOLS
- HOSPITALS
- INSTITUTIONS
- INDUSTRIAL DINING ROOMS

"Lifetime" Cast Construction

### "CHF" SECTIONAL TABLES

Here's the modern way to maximum seating in a limited space... plus rugged construction to eliminate costly replacement and maintenance. Seats, with or without backs, are attached, and swing out of way to keep your dining room neat, without the noise and confusion of loose chairs and tables. Units seat 4 to 24 people.

Write Today For Catalog Showing Complete Line

DISTRIBUTORS IN ALL PRINCIPAL CITIES

**THE CHICAGO HARDWARE FOUNDRY COMPANY**

"Dependable Since 1897"

36106 Commonwealth Ave. • North Chicago, Ill.

- New Colorful Tops: Formica; Stainless Steel; Caf-o-lite; and Edge Grain Maple
- Cast Iron Bases in Enamel Colors
- Seats Swing Under Tables—Out of Way



- ☐ Have you made a serious effort during the past year to improve the information you receive on the critical area of inventories?
- ☐ When something goes wrong, do you resist the temptation to insist that it was up to the manager to whom the task was delegated?
- ☐ When you require special reports on company trouble spots, does your secretary keep a schedule of the dates they are due?
- ☐ As president, do you make sure that all major executives are fully aware of the particular company goals each year?
- ☐ Do you make an honest effort to pass the authority for making decisions as far down the line as possible?
- ☐ After you delegate the responsibility for a project, do you also give the full authority needed?
- ☐ Are the people who prepare your visual reports experienced in this medium?



- ☐ Do you feel that the charts and other visuals you receive make your operating data more meaningful?

**NO WONDER THE BOSS ENJOYS WORK SO MUCH WITH HIS**



### NEW BROUNE-MORSE ALUMINUM POSTURE CHAIR

**It's so comfortable—**

you hardly know you're working. New Browne-Morse Aluminum Posture Chairs with the most advanced designs help you produce more work (up to 30%) with fatigue-free comfort. It's the most modern chair made for work or rest. And its cost is low.

Broune-Morse complete line of Posture and Straight Back Aluminum Chairs are skillfully engineered to provide utmost comfort, durability and efficiency.

Molded foam rubber cushions and durable upholstery in new modern colors give chairs a new look for years.



Write for FREE literature

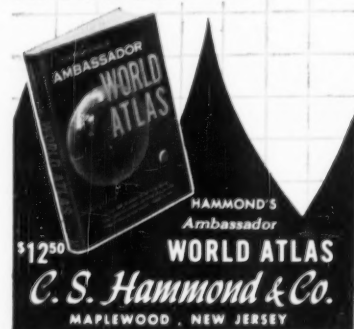
The World's Most

Authoritative Maps

MAPS  
ATLASES  
GLOBES  
PREMIUMS  
ADVERTISING  
SPECIALTIES  
EDUCATIONAL  
AIDS  
GEOGRAPHICAL  
MATERIAL

**HAMMOND**

Acclaimed by travelers, educators, business executives for accuracy, detail, utility and eye-appeal. There are colorful, appropriate, Hammond maps for every purpose. When you want the finest in cartography turn to Hammond.

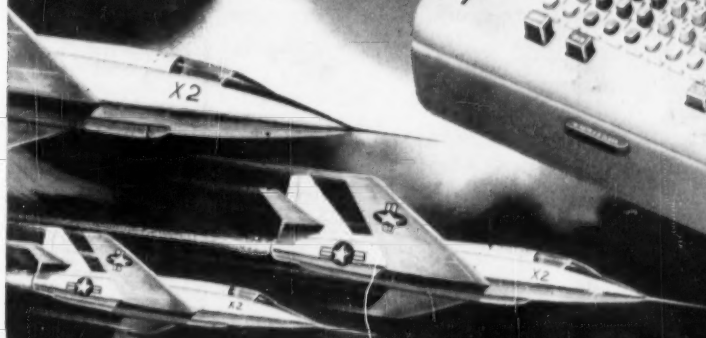
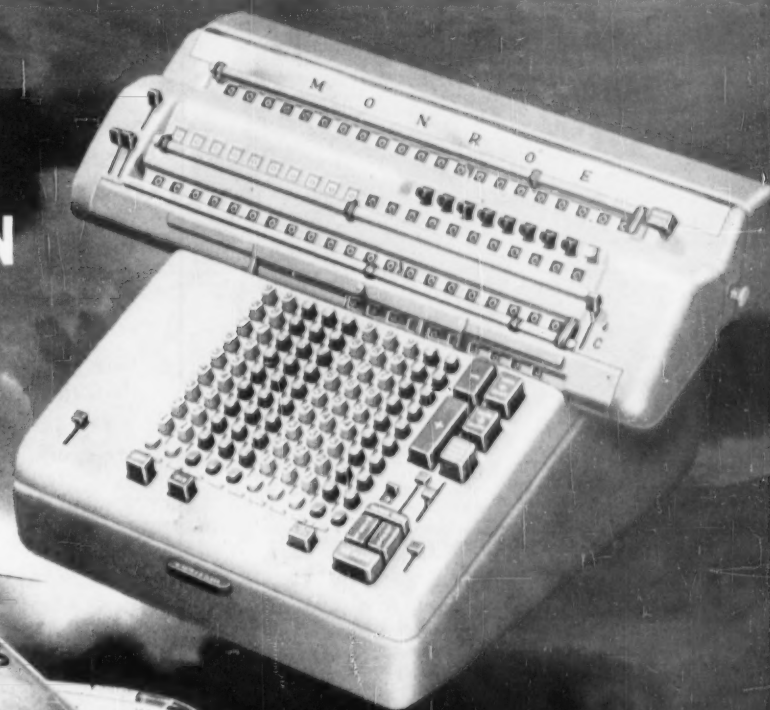


\$12.50

**C. S. Hammond & Co.**  
MAPLEWOOD, NEW JERSEY



*Today's*  
**AUTOMATION**



**Monroe puts it on the desks of:**

**CATERPILLAR**



**CROWN ZELLERBACH CORPORATION**



**NATIONAL BISCUIT COMPANY**



**PENNSYLVANIA RAILROAD**

These outstanding companies have achieved success through the years by *alert* far-sighted management. Today in their offices figure work is speeded with *automation for figures*. Today businesses large and small rely on Monro-Matic desk calculators. The new Monro-Matic Duplex Calculator actually speeds the answers to several problems simultaneously! It adds as it multiplies, adds as it divides, and by storing individual answers automatically eliminates addition or subtraction of results when the final answer is needed.

**See the MAN from MONROE**

Apply this to *your* business.

Write or telephone Monroe Calculating Machine Company, Inc.

General offices: Orange, N. J. Offices throughout the world.

for CALCULATING  
ADDING  
ACCOUNTING  
DATA PROCESSING  
MACHINES



**ALMOST  
UNLIMITED  
APPLICATIONS**

**ACME VISIBLE**

## VISUAL CONTROL PANELS

**Chart Action, Indicate Trends,  
Show Results, Permit Comparison,  
Picture Organized Facts for  
Analysis and Decisions.**

Complete flexibility with limitless signalling and charting possibilities . . . Easily adapted to your individual record requirements.

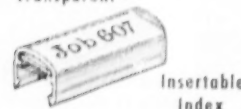
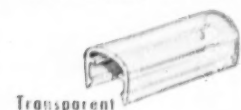
Lightweight panels contain clear plastic tubes which are individually removable and may be shifted from one position to another . . . Clarity of tube provides full legibility of contents.

Signals snap on or off at any point . . . Hold position until positively moved . . . Slide smoothly back and forth . . . By-pass freely.

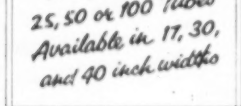
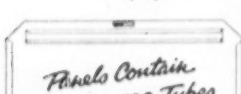
Insertable index feature affords triple signalling potential: by position, by color and by legend of index.

*Ask the man from Acme to show you examples—*

### OVER-RIDING SIGNALS



### TUBE INTERIOR SIGNALS



ACME VISIBLE RECORDS, INC. CROZET, VIRGINIA

☐ Send us more information on Visual Control Panels.  
☐ We are interested in Acme Visible equipment for \_\_\_\_\_ records.  
☐ Have representative call. Date \_\_\_\_\_ Time \_\_\_\_\_  
 Company \_\_\_\_\_ Attention \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

- ☐ Do you avoid making assumptions about the progress of special projects before you find out how they are going?
- ☐ The reporting system to the president may be functioning well, but are you sure the lateral communication system—that is, among your top-level team—is in top form?
- ☐ When you turn over a problem to a committee, do you still hold one executive accountable for the results?
- ☐ Does your organization manual show the job specifications even for the president?
- ☐ As president, have you examined closely, within the past year, your duties to see which could be delegated to a subordinate?
- ☐ Have you examined special reports to see if they could be routed to one top executive rather than having them receive the attention of the whole executive suite?
- ☐ Have you set up regular weekly luncheon meetings with your top management team?
- ☐ Do you, as president, avoid discussion of crises at these lunches and steer the conversation around to filling in background on general operations?
- ☐ Do you find out about new profit opportunities from your own executives first?



- ☐ Have the duties of department heads and other middle management people been put into writing?
- ☐ Have you attempted a systematic appraisal of each member of your top management team?
- ☐ Do you make a special effort to distinguish between facts and conclusions in the reports you receive on special problems?



## Jr. SEMI

Looking for an efficient way to cut your trucking costs? Just book a Wells Cargo to your small truck. This low-cost "junior" semi-trailer packs a hefty payload—up to 4 tons! Get big-truck capacity when you need it without the expense of a second truck.

**BUILT FOR HARD USE**—Axles and springs reinforced for heavy loads. Rugged, welded steel frame has stamina to spare.

**NO WEAVE OR SWAY**—Balanced construction and tandem axles permit high speed hauling.

**CAN PAY FOR ITSELF**—Savings in man-hours and freight bills often pay for a Wells Cargo in a matter of months.

Send for prices and specifications.

**WELLS CARGO**

Division of Prairie Schooner, Inc.  
Elkhart 6, Indiana

### A Working Manual of Public Relations Techniques

This book gives you tested-by-experience material to help you solve your most difficult public relations problems. It brings you the best thinking of 34 recognized authorities—more than have ever discussed public relations within the covers of a single book.

#### YOUR PUBLIC RELATIONS

Edited by GLENN GRISWOLD  
and DENNY GRISWOLD

with chapters by 32 other experts  
in the public relations field

644 pages, 32 illustrations, 6½ x 9¼  
\$7.50

A MODERN INDUSTRY BOOK

Here is a practical working handbook which for the first time applies the actual case history approach to public relations. Each chapter includes step-by-step case examples to show tested public relations methods that have proved successful.

This book gives top management men and public relations directors a clearing house of policies and procedures used in the solution of a wide variety of public relations problems, including many topics never before treated in one volume.

With this handbook at his fingertips, any executive can plan his entire public relations program with confidence.

Order from Book Department  
Dun's Review and Modern Industry  
99 Church Street, New York 8, N.Y.

More than a  
million credit checks  
a month...

but filing  
them this way  
is a snap



**General Petroleum Corporation—the Socony-Mobil affiliate in the far west—cuts billing costs approximately 50% by photographing credit checks in a Recordak Microfilmer**

**In one minute** the girl at the Recordak Microfilmer can file more than 300 credit checks on film.

This fast, low-cost operation allows many short cuts. Some, no doubt, might well be applied to your own routines.

**Cuts paper work.** Photographing the original Mobil credit checks eliminates the need for the carbon copies formerly kept as the office record. (The originals, as before, are returned to the customer with his bill.)

Handling only one paper record for every purchase—instead of two—saves time all along the line. For example, four days a month were formerly spent cleaning out drawers and labeling storage boxes.

**Turns file space into office space.** A year's supply of credit

checks—on Recordak Microfilm—are now filed at the finger tips in four file drawers instead of in 1800 large boxes. A space saving of at least 98%.

**Eliminates "can't find's."** Now, when customer's ask to see past records . . . they can be located in a matter of minutes, and viewed—or duplicated—in a Recordak Film Reader. Since the adoption of Recordak Microfilming there hasn't been a single case of a ticket not being easily found.

**Permits centralized accounting.** Branch offices now forward credit checks to home office where dual microfilm copies are made simultaneously—one set for branch. *Despite a three times' increase in ticket volume in recent years same staff easily handles the job!*

*"Recordak" is a trademark*



**"SHORT CUTS THAT  
SAVE MILLIONS"**

This valuable free booklet shows how Recordak Microfilming is cutting costs for over 100 different types of business . . . thousands of concerns.

**RECORDAK**

(Subsidiary of Eastman Kodak Company)

**originator of modern microfilming—and its application to business routines**

**MAIL COUPON TODAY**

RECORDAK CORPORATION (Subsidiary of Eastman Kodak Company)  
415 Madison Avenue, New York 17, N. Y.

Gentlemen: Please send free copy of "Short Cuts That Save Millions." A-10

Name \_\_\_\_\_ Position \_\_\_\_\_

Company \_\_\_\_\_

Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_



# A D P\* IS AUTOMATION THE

\*Automated Data Processing by Moore

A popular misconception of automation pictures it as a system controlled by costly machinery . . . available to big concerns only. But plain, ordinary, efficient automation (without the glamor) quietly works small miracles for small businesses every day. Whatever the size of your business, the man from Moore can show you how ADP gives you maximum results in processing data

automatically. Moore does not manufacture ADP machines but knows machine applications. Forms design and construction must be adapted to any machine, and a Moore man's unbiased advice is constructive for that reason. Thus *workability* is planned into the system. ADP by Moore can be put in on a schedule that's practical and suitable . . . all at once, or in planned stages.



The Moore man knows automation and brings 'composite' experience to your problem. Behind him are the resources and wide experience of the largest, most versatile manufacturer of business forms. This combination has brought system improvement to many Moore customers.

## **Big results in automation at little cost**

**ADP obtained maximum benefits for this company—without heavy investment—without disturbing current operations.**

SEE CASE HISTORY ON FACING PAGE

# SMALL BUSINESS CAN AFFORD



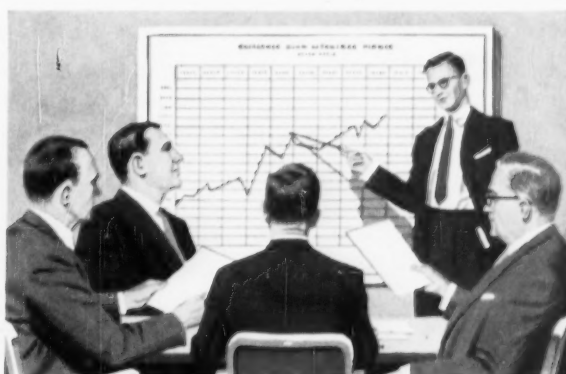
**ORDER DEPARTMENT**—An incoming customer-order is checked against the Daily Stock Inventory Report, to record on the order papers: shipments to be made and back orders. Proper control, on paper, of an order's disposition means speedy shipment (in full or part) with prompt, accurate advice to salesman and customer.



**ORDER TYPING**—Prepunched cards containing *Ship To, Bill To, Item and Back Order Item* information are pulled. When processed through a card accounting machine, they immediately produce (on separate cable-connected typewriters) a Moore 6-part Continuous Invoice and a Moore 7-part Shipping Order (for both original and back-order shipments).



**CUSTOMER SERVICE**—Completed forms move ahead rapidly so that orders are received, shipped and billed the same day: Shipping set copies to Stockroom, Shipping and Traffic... Invoice set to Billing for release on notice from Traffic... Punched cards to Tabulating for analysis and preparation of reports.



**MANAGEMENT REPORTS**—Tabulating provides reports daily (not weekly or monthly) on the previous day's activity. They are accurate, up-to-the-minute summaries on which management bases decisions that affect business today. This furnishes control never before realized, with the benefits felt in inventory handling, distribution and procurement.

## Moore Forms are the heart of the system

*They deliver the ADP efficiency*

For a medium or small business the benefits of automation may need only the application of an ADP system by Moore. 'Automated Data Processing' means the continuous and integrated operation of data processing using automatic machines. Only minimum changes in your present procedures may be needed to achieve practical

results in automated operation, without costly investment. Moore forms of every kind and description are designed to fit any business system, even a simple operation. For ADP efficiency in your business, call in the Moore man, without obligation, of course (he's in the Classified)—or write the nearest Moore office below.



The efficient Moore Speediflo form

## MOORE BUSINESS FORMS

Inc

NIAGARA FALLS, N. Y. • DENTON, TEXAS • EMERYVILLE, CALIFORNIA

Since 1882 the world's largest manufacturer of business forms and systems. Over 300 offices and factories across U.S. and Canada.





*Automation demands new skills of office personnel.*

## NEW PRODUCTS FOR OFFICE AUTOMATION

*A brief look at some of the latest in the vigorously growing industry of data processing equipment.*

**T**HE development of more effective automatic office equipment accelerates. Strictly technical problems are being overcome by new feats of engineering which threaten, in the years ahead, to make antiquities of the present giant "brains." Yet the very variety and quantity of the new products magnify the central problem: that of establishing a common machine language throughout business that will eliminate the need for expensive conversion equipment.

There are signs, however, that future users of electronic equipment are becoming more actively concerned about this problem and are doing something about it before it's too late. A pioneering move in this direction was taken very recently by the American Bankers Association. Faced with the problem of future check mechanization, the ABA Bank Management Commission recommended adoption of the magnetic ink character recognition as a base common

machine language. What is most important is that, spurred by the commission's move, eight of the larger manufacturers have agreed to act on the proposal.

Whether this represents a trend or simply an isolated instance can not be foreseen. The watch word, at least among the largest companies, still seems to be competition rather than co-operation. What can be said is that the manufacturers are sparing no research and energy in trying to outdate each other's equipment. The pictures on this and the following pages are just a sampling of the latest in the industry. Among the many companies also important in the field are Clary, Friden, Marchant, Monroe, National Cash Register, and J. B. Rea.

Four new products introduced by the International Business Machines Corporation include two electronic data processing machines designed to completely bridge the time gap between busi-

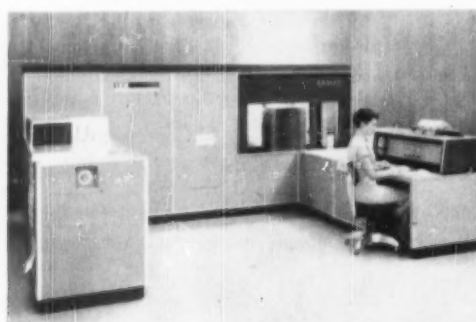
ness transactions and reports. IBM says that the machines, the RAM 650 and the RAMAC, can adjust all records affected by a transaction immediately after it occurs. This continuous "in-line" accounting means the need for sorting and batch processing will be almost eliminated.

The key component of these machines is the magnetic disk or "juke box" memory device which provides random access to the millions of facts and figures it stores. The RAM 650 combines the IBM 650 Magnetic Drum Data Processing Machine with a series of disk memory units capable of a 24 million digit capacity. The RAMAC is a complete system which contains its own input, output, and processing units. It has a built-in memory of 5 million digits.

IBM's other new products include an electronic typewriter which "reads" (see below) and the APR, a system which extracts and processes production data straight from assembly lines.

*IBM'S newest computers feature instantaneous "in-line" accounting.*

IBM's new typewriter features an electronic "reading" device. It eliminates manual tabulating adjustments no matter how many different business forms are used. Vertical lines are printed on a form with electrically conductive ink. The electronic device "reads" these lines which program the typewriter carriage to stop at the right point.

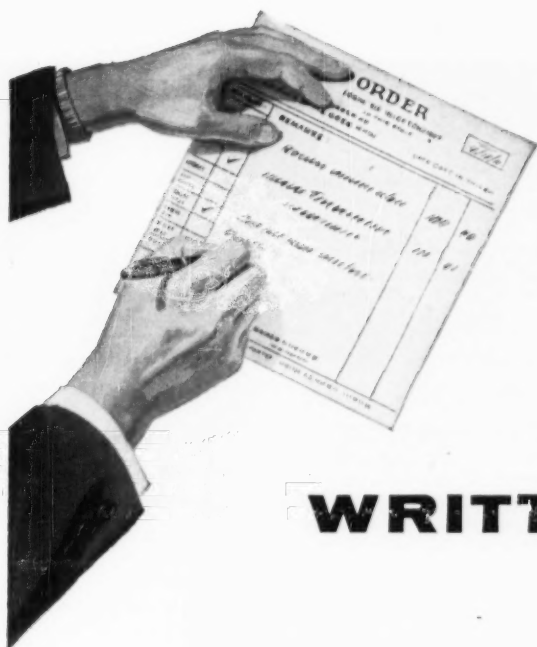


IBM'S 305 RAMAC



THE RAM 650.





from order

to invoice...

## WRITTEN JUST ONCE

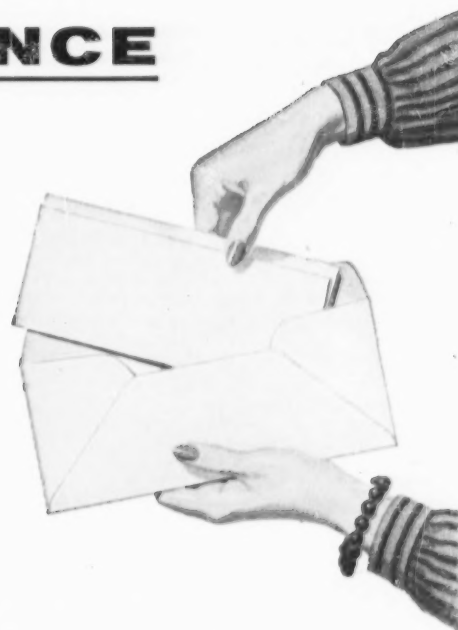
Now—fill, ship and bill orders in *just one writing*—this new Ozalid *Direct Copy* way.

You start with an order filled out by your salesman or clerk. Ozalid copies, turned out in seconds, serve at every succeeding step. You end costly, repetitious handcopying and retyping...eliminate copy errors and proofreading...get shipments and bills out sooner...improve customer service.

Ozalid ends wasteful duplication of paperwork throughout your business. In every department, Ozalid replaces costly writing or typing with inexpensive *Direct Copying*.

Ozalid makes copies of anything written, printed, typed or drawn on any paper that transmits light—at the lowest cost per copy of any similar process. Actually, you pay less than a penny for a letter-size sheet of sensitized Ozalid paper.

For the full story, call your local Ozalid representative... or send coupon below for more information.



**OZALID®**  
DIRECT COPY SYSTEMS  
COPY

A Division of General Aniline & Film Corporation. In Canada: Hughes Owens Company, Ltd., Montreal



Ozalid, Dept. C10, Johnson City, N. Y.

Please send more information on how Ozalid *Direct Copying* can help us with our:

- |   |                                     |                                      |
|---|-------------------------------------|--------------------------------------|
| <input type="checkbox"/> Order-Invoicing    | <input type="checkbox"/> Purchasing | <input type="checkbox"/> Accounting  |
| <input type="checkbox"/> Production Control | <input type="checkbox"/> Receiving  | <input type="checkbox"/> Engineering |

Name \_\_\_\_\_

Position \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

## concerned with duplicating costs? Check the waste paper basket!



stencils — masters — copies  
In arriving at your duplicating costs,  
have you included the rejects?

# Stenafax

is electronic!  
automatic!

Stenafax prepares your mimeograph stencils—offset paper plates • single positive copies with facsimile accuracy • push-button simplicity requires unskilled personnel • operates and shuts off automatically • fast • economical

**NO CHEMICALS—NO POWDERS—NO HEAT—NO LIGHT**  
Before you buy, get the facts on Stenafax

TIMES FACSIMILE CORPORATION, Stenafax Division, DR-10 Hotel Biltmore  
Arcade, 43rd St., and Madison Avenue, New York 17, N. Y.  
Please send Stenafax brochure to

Name \_\_\_\_\_

Address \_\_\_\_\_

City & State \_\_\_\_\_



## Save miles of walking... RUN YOUR PLANT by TALKING

WITH FAST, AUTOMATIC

# Federal DIAL

## INTERCOMMUNICATION

—the private, inside telephone system that expedites  
production... cuts paperwork... enables every  
executive and employee to do more work per day!



- **PROVIDES** instant contact between all departments... all buildings on a plant site.
- **QUICKENS** over-all operations... your staff functions as a unified, fast-acting team.
- **CURTAINS** desk-hopping and needless conversation... keeps employees on the job.
- **UNLOADS** your switchboard... puts all inter-office calls on a separate dial system.

- **SPEEDS** incoming calls... gives faster service on the calls that talk "profit."
- **REDUCES** operator costs, equipment rental... cuts call-backs and unauthorized calls.
- **IMPROVES** customer relations... stops irritation and hang-ups... builds good-will.
- **OPERATES** 24-hours-a-day free of switchboard... serves 10 to any number of stations.

"Certified by a World of Research"



Write for booklet, to Dept. G-4150  
**Federal Telephone and Radio Company**  
A Division of  
International Telephone and Telegraph Corporation  
100 KINGSLAND ROAD • CLIFTON, N. J.

## EVOLUTION IN THE OFFICE



Cuts in half mass mailing production costs. That's what the Burroughs Corporation says that its new two-ton Series G electronic printer-punch machine can do. The robot prints 900 lines a

minute from punched cards. It can be used for disbursing payroll, dividend checks, insurance premium notices, mail promotion, invoices, and production and material control documents.



Burroughs E-101 is a good example of an electronic computer that has successfully entered the banking world from a background in science. The small "brain" has been installed in New York City at both the First National City Bank and the Guaranty Trust Co. It eliminates the need for handwritten figures in computing such items as interest rates and loan balances.



Bizmac Electronic Printer, an experimental development by the Radio Corporation of America, can reportedly translate 4,000 coded signals a second. In one minute it will produce 40 different business documents as large as eight and a half by eleven inches. It was designed as an output device for the RCA Bizmac but can be modified for use in other systems.

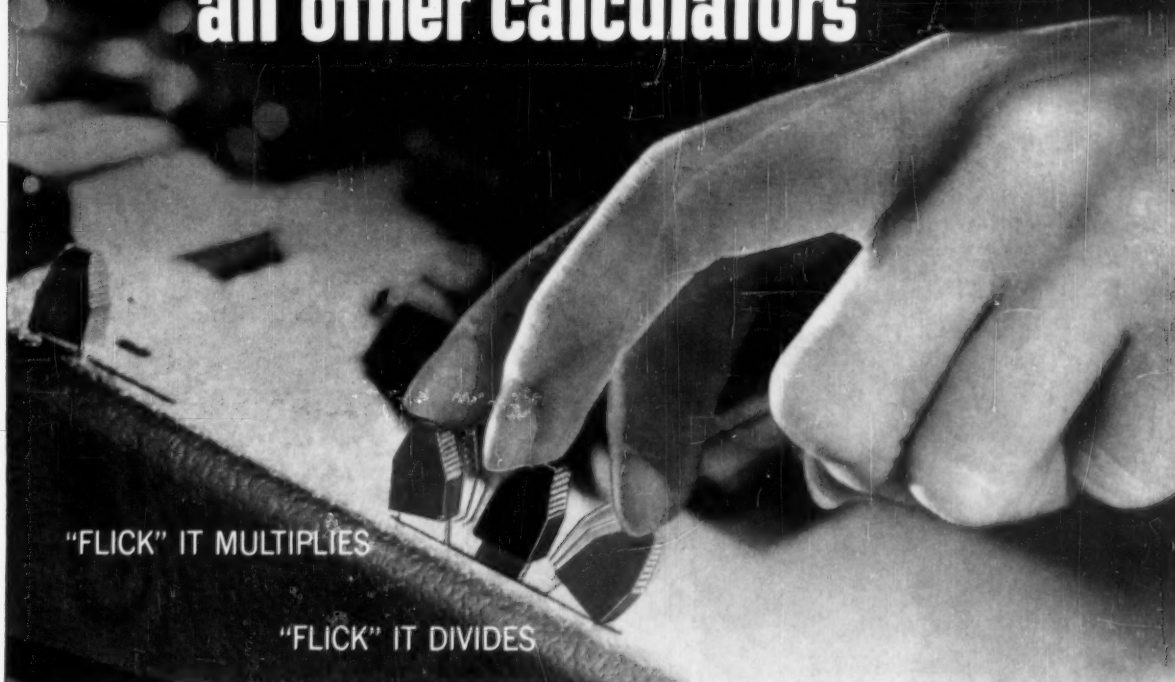


Designed especially for business is the giant "brain" of the Datamatic Corporation, "Datamatic 1000." It handles a range of clerical operations from accounting and billing to sales analysis, inventory, and production control. It was built to subject millions of scraps of data to relatively simple arithmetic and produce a multitude of different answers.

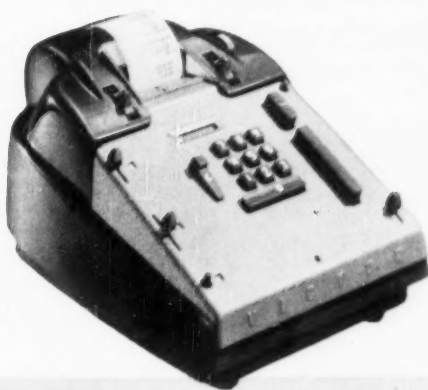


Small and mobile is the scientific digital computer, "LGP-30," manufactured by the Royal McBee Corporation. In the low-price range, it will operate on both alphabetical and numerical information. The magnetic drum memory holds 4096 words. The machine may be programmed to solve highly complex problems, yet the operator's control is relatively simple.

# The Victor "Flick" that outdates all other calculators



## New Victor Automatic Printing Calculator saves you costly man-hours because it's simpler, easier, more accurate to use



Here's the greatest advancement in calculators in a decade. This exclusive Victor feature lets you *multiply or divide* with a gentle "Flick" of your finger. No mental counting. "Up" to multiply . . . "Down" to divide . . . middle position to add or subtract—and all *automatically!*

The new Victor Calculator prints your figures *on tape*, just as you would write them. Automatic Constant lever holds figures for repeated division or multiplication. Exclusive Total Transfer button eliminates need for re-entering totals.

Find out how much this Victor "Flick" can do for you—look under "V" for Victor in the adding machine section of your classified phone book or *mail the coupon below.*

### VICTOR ADDING MACHINE CO.

Chicago 18, Illinois

Victor-McCaskey Limited, Galt, Ontario

Manufacturers of Business Machines, Cash Registers, Business and Industrial Systems, Electronic Equipment, Electri-Cars

VICTOR ADDING MACHINE CO., Chicago 18, Illinois

Send me brochure on the New Victor Automatic Printing Calculator, showing all the features.

Name

Company

Address

City

State





# INTERNATIONAL REPORT

DUN & BRADSTREET, INC.



NERINGROS, A.G.

IMP., WHOL. DRY GDS., HDWE.

ZURICH, SWITZERLAND  
38 Kaltenstrasse

CD. JULY 3, 1956

DIRECTORS: Albert E. Ora, Chairman; Abraham Ora, Jo

SUMMARY:  
ESTABLISHED 1931. NET WORTH

HISTORY:

## IT MIGHT BE NEWS...

...to some people, that concerns in Des Moines, Iowa; Denver, Colorado; or Fort Worth, Texas, sell on credit terms to customers in Casablanca, Africa; Zurich, Switzerland; or Karachi, Pakistan. But here at Dun & Bradstreet, we've known it for quite some time. As a matter of fact, since 1857, we've been supplying international credit reports that make this sort of thing practical.

If you are thinking of entering international trade—or are already in it—our world-wide credit reporting facilities are ready to go into action for you whenever you say the word.

**Dun & Bradstreet, Inc.**

230 Offices in Principal World Markets.

S PROMPT.

of 1,000 Swiss  
1946, when hurri-  
pay him, and he  
payment on  
plus interest.  
early in

are 27 and  
nd help their  
he business

ie agents,  
automobile  
0 days.

M  
In  
co  
ag  
Ma

Own  
fee

FINAN  
Balan

June 30, 1956: (Figures shown in Swiss Francs)

### ASSETS

Cash	7,926
Accounts Rec.	71,847
Merchandise	132,673
CURRENT ASSETS	212,446
Prepaid expenses	1,003
Furniture & Fixt.	9,931
Real Estate (net)	29,373
TOTAL ASSETS	252,753

### LIABILITIES

Accounts Payable	17,147
Notes Payable	38,904
Due Banks	20,700
CURR. LIABILITIES	76,751
Mortgage on real estate	8,500
CAPITAL	100,000
Surplus	67,502
TOTAL LIABILITIES	252,753

Sales for fiscal year ending June 30, 1956, approximately 1,000,000 francs, net profit approximately 20,000 francs realized after deducting all overhead expenses. Real estate shown net less depreciation. "Notes Payable" represents time drafts which company accepted, not yet due. "Due Banks" payable within year, used to finance accounts receivable and merchandise. Mortgage 8,500 francs due January 1, 1957, one payment. Outside bank financing utilized to carry slow receivables.

At local bank, account averages medium four-figure balances, satisfactory. Accommodations granted on own paper, satisfactory payments. Large amount presently outstanding.

CURRENCY: The Swiss Franc is currently quoted at 23¢ U.S.

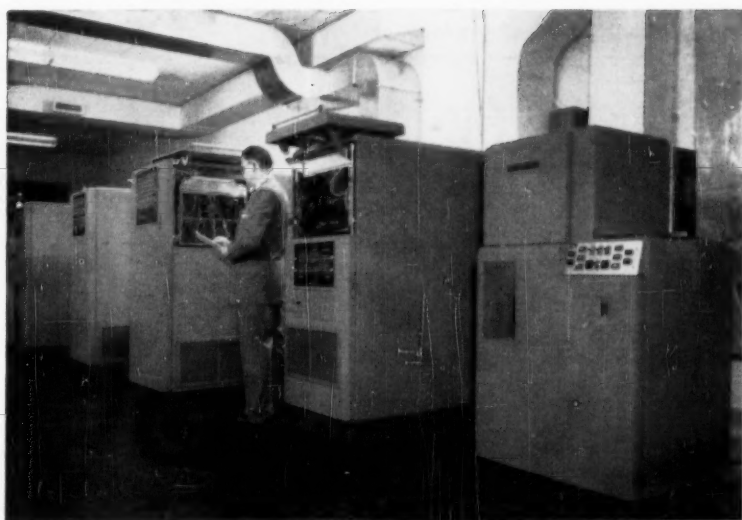
PAYMENTS: (U.S.A. TRADE INVESTIGATION)

HC	OWE	P. DUE
\$ 23,500	-0-	--
18,700	\$8,600	--
3,000	-0-	--

TERMS  
90 days S/D  
75 days S/D  
Net 30 days

PAYMENTS  
PROMPT  
PROMPT  
PROMPT

PLEASE NOTE WHETHER NAME, BUSINESS AND STREET ADDRESS CORRESPOND WITH YOUR INQUIRY.  
The foregoing report is furnished, at your request, under your Subscription Contract, in STRICT CONFIDENCE, by DUN & BRADSTREET, Inc. as your agents and employees, for your exclusive use as an aid in determining the advisability of granting credit or insurance, and for no other purpose. 12A-20 (09878)



Choice of input unit is one of the features of Remington Rand's new Univac File Computer. The general purpose business machine can come equipped to take data direct via either

magnetic tape, perforated paper tape, punched cards, typewriters, or adding machines. It also features high capacity random access storage—either by magnetic drums or magnetic core memory.



General Electric's Erma, a giant book-keeping machine, will handle the daily work details for 55,000 checking accounts. Still in production, the computer system is scheduled to be installed in the Bank of America, San Francisco, within two years. It calls for a staff of nine on a two-shift basis to run at normal pace. GE says that it cannot make an error in arithmetic.



Elecom file processor is a special purpose computer which sorts, collates, selects and categorizes information recorded on magnetic tape. With the 125 Computer it comprises the Elecom 125 System of the Underwood Corporation. The computer itself differs from the giants in the higher price range mainly in its speed—millisecond rather than microsecond.

#### INFORMATION SERVICES

One of the newest and more comprehensive services providing up-to-date information on office automation is edited by John Diebold and Associates, Management Consultants, 40 Wall Street, New York. Entitled "Automatic Data Processing Service," it contains weekly reports on such topics as new equipment, methods, and management policy in automation, plus special studies on problem areas. Published by Cudahy Publishing Company, 5141 North Cicero Ave., Chicago, Illinois. Other services include:

*Office Automation*, Automation Consultants, Inc., 1450 Broadway, New York 18, N.Y. This service consists of a base book on new equipment, kept up-to-date by monthly newsletters.

*Data Processing Digest*, Canning, Sisson, and Associates, 914 South Robertson Blvd., Los Angeles, Calif. A monthly publication including digests and reviews of papers and articles on office automation equipment and applications.

## Transporter eliminates unproductive physical effort in record handling

with **ROL-DEX**



#### Open Contract Files at United Van Lines in St. Louis.

The 11 3/4" x 10" Incompleted Contract Folders housed in the two Rol-Dex units are used to file correspondence and related forms while the contract is active. The chair-desk assembly rolls between the two units, providing fast reference with less work for the clerk.

United Van Lines eliminated congestion at the files and reduced unproductive physical effort (walking - pulling - bending - squatting - pushing) to the vanishing point when they had this modern record handling equipment installed in their St. Louis offices.

**SEE ROL-DEX EQUIPMENT IN OPERATION AT THE NATIONAL BUSINESS SHOW NEW YORK, Oct. 10-15.**

*Send for more information about the above and other Rol-Dex installations.*



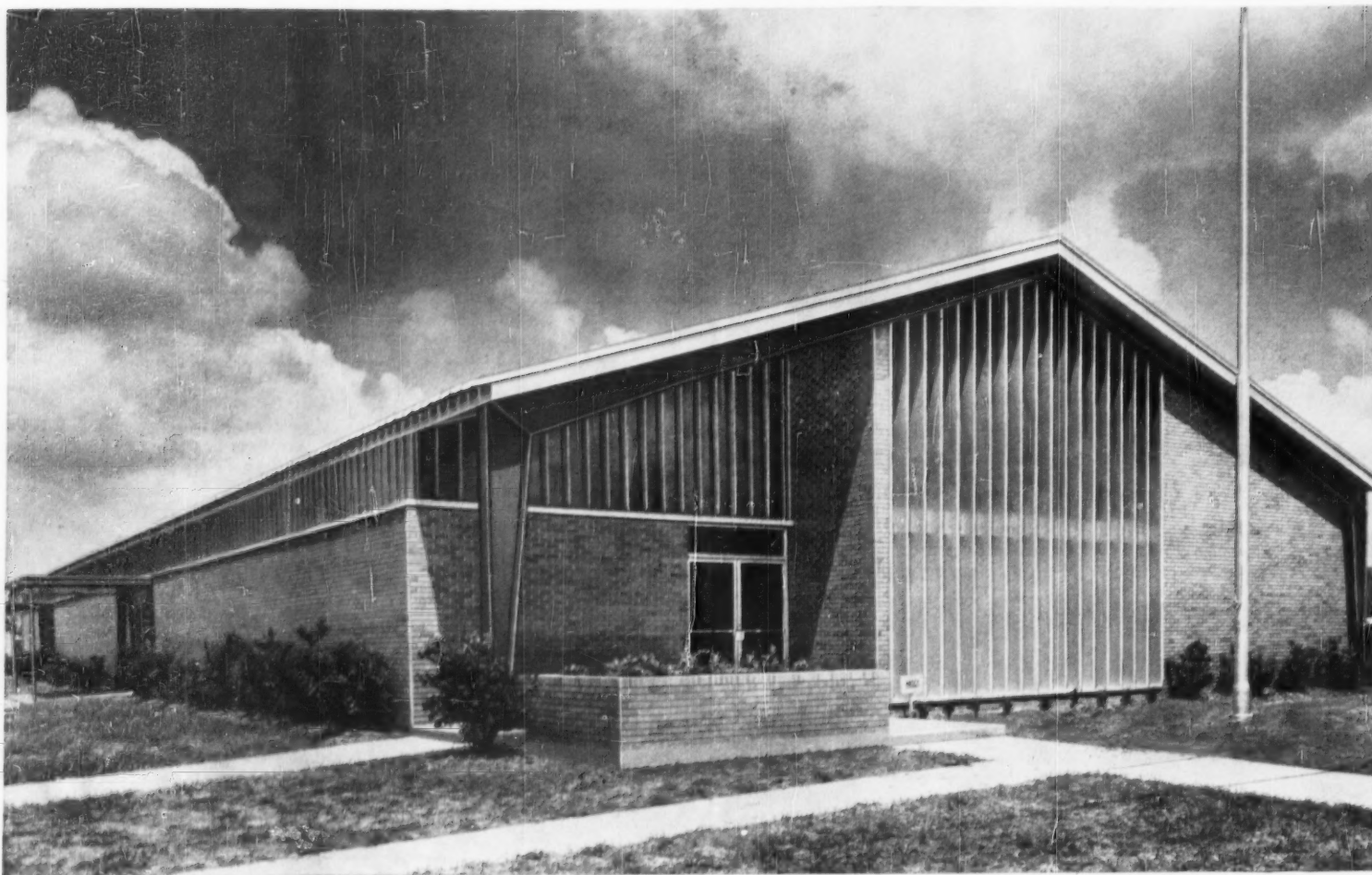
**WATSON MANUFACTURING CO., Inc.**  
Rol-Dex Division, Dept. D-1  
Jamestown, New York

Please send me information about ROL-DEX and TRANS-DEX record units

Company .....  
Name ..... Title .....  
Street ..... Zone .....  
City ..... State .....



**WATSON** (established in 1887) also builds a complete line of filing cabinets and courthouse, bank and hospital equipment.



# This is a METAL building?

Hold on, there. The eye sees brick, mortar and cement. But very little metal. Where does the metal come in?

It's true the metal is not apparent. But basically this is a Butler metal building, built with the Butler Building System. It combines Butler steel structurals and a Butler die-formed metal roof with conventional construction materials to produce a custom-designed appearance at a mass-production price.

**That's the beauty of Butler.** Architect-designed looks at unbelievably low price. And you'll be amazed at how fast they go up—in literally weeks, instead of months. You get the space you need *when* you need it—not months later. This keeps labor costs low, too.

**Inside,** there are no posts or other obstructions to get

in the way. Butler rigid frames span the entire interior, permit flexible furniture arrangements and maximum use of space. Weather-tight Butler buildings are easy to insulate for year-round comfort. Acoustical material can be applied economically.

**Inexpensive foundations,** large areas of glass, and curtain walls and partitions can be used freely with Butler buildings, because all weight is on frame, not sidewalls.

**In short,** the Butler Building System can go a long way toward solving two major problems: (1) the need for more space at (2) low cost. For full information on Butler Systems Buildings, consult your Classified Directory under "Buildings" for name of your Butler Builder. Ask him for free colorful brochure.



Butler rigid frames span the entire interior of rooms up to 100' wide, permitting full use of space without posts or other obstructions.



**Manufacturers of Steel Buildings**  
Oil Equipment • Farm Equipment • Dry Cleaners Equipment  
Outdoor Advertising Equipment • Special Products

Sales offices in Los Angeles, Richmond, Calif. • Houston, Tex.  
Birmingham, Ala. • Minneapolis, Minn. • Chicago, Ill. • Detroit, Mich.  
New York and Syracuse, N. Y. • Washington, D. C. • Burlington, Ont., Canada



## BUTLER MANUFACTURING COMPANY

7417 East 13th Street, Kansas City 26, Missouri

Please send brochure giving full information on the Butler Building System.

Name \_\_\_\_\_  
Firm \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



# Executive BOOKSHELF

GROVER AMEN

## Suggestions for executive reading

- Problems of human relations
- The art of good management
- Industry in American cities
- How to handle investments
- Improving sales training

### Business and human nature

HUMAN RELATIONS FOR MANAGEMENT edited by Edward C. Bursk. Harper and Brothers, 49 East 33rd Street, New York 16, N. Y., 372 pages, \$5.

This provocative book is a collection of seventeen articles which first appeared in the *Harvard Business Review*.

Though "communication" is the formal heading of only one of the five sections, it emerges as the

dominant problem in almost every article. At a time when there is so much talk of "group" morale, "group" participation, and "group" co-ordination, it is refreshing to find the need stressed for treatment of employees on every level as individuals rather than as mere representatives of some group.

Inevitably perhaps, the book is far better at perceptive analysis of problems than at proposing concrete



### American poverty and the social conscience

FROM THE DEPTHS by Robert H. Bremner. New York University Press, Washington Square, New York, 364 pages, \$5.50.

From a time when poverty was generally considered an inevitability, an individual problem, or a blessing in disguise, Mr. Bremner traces the evolution in American

thought that resulted in responsible and realistic reform.

His book is not a history of economic suffering or of actual reform movements. It is a study of the causes—with considerable stress on literature and the arts—which led to active legislation.

solutions. Some of the articles, for all their facts and intelligent interpretation, suggest that what every company really needs most is a good psychoanalyst.

### Fresh and informal

MANAGEMENT IN ACTION by Lawrence A. Appley. American Management Association, 1515 Broadway, New York 36, N. Y., 382 pages, \$3.50 (AMA members), \$5 (non-members).

The first publication in book form of Mr. Appley's writings which originally appeared in AMA publications. It includes 84 articles notable for their brevity, diversity, and informal insight into the science and "art" of management.

Mr. Appley manages consistently to get behind the platitudes that frequently plague writing on management methods. Unafraid to tackle the apparently obvious, he has a knack for coming up with fresh approaches to old but basic problems.

### Industrial geography

THE INDUSTRIAL STRUCTURE OF AMERICAN CITIES by Gunnar Alexandersson. University of Nebraska Press, Lincoln, Nebr., 134 pages, \$6.50.

Urban industries employ over four-fifths of the gainfully employed population in the United States. Dr. Alexandersson's book is the first complete and comparative geographic study of our urban economy. In text, map, and chart, it covers national distribution patterns of 36 urban industries in 864 cities of 10,000 or more population.

### Economic threat

THE STERLING AREA IN THE POST-WAR WORLD by Philip W. Bell. Oxford University Press, 114 Fifth Avenue, New York 11, N. Y., 478 pages, \$10.10.

Mr. Bell finds in his study that the sterling area system is seriously imperiled unless fresh adjustments are made.

Its future, he writes, "depends essentially upon what each individual member can and does obtain from participation in the long run relative to the next best alternative. . ."

Considering capital, trade, and political benefits, he finds that the present system offers steadily decreasing advantages to member regions.

More reviews on page 118

### The Automotive Leaders

Choose I & R Awards!



Yes, in the big automotive industry, Irons and Russell quality jewelry products are making a lasting impression. We specialize in original designs for every type of award . . . service, sales, safety, special occasions of every kind. Whatever it is, and we even think them up for you, it will be to your advantage to contact us.

Our free illustrated folder and further information is yours upon request.

### IRONS & RUSSELL COMPANY

INDUSTRIAL DIVISION  
Emblem Manufacturers Since 1861  
95 Chestnut Street, Providence, R. I.

### The MODERN WAY

to do all types of

TACKLING and FASTENING

—FASTER—BETTER—  
HANSEN TACKER



NOT only in production, assembly, shipping, but also in insulating, screening, sound-proofing buildings—HANSEN Tacker is useful in all types of tacking and fastening operations.

### BUILDING - MAINTENANCE

- WEATHER-STRIPPING
- INSULATION
- SCREENS
- METAL LATH
- CORNERITE
- SOUND TILE
- TAR AND BUILDING PAPER
- WALLBOARD
- COMPOSITION BOARD
- HYDRON
- MASKING MATERIALS
- MOISTURE-PROOFING

### 36 MODELS—80 STAPLE SIZES

A model for every tacking or fastening purpose. For light, medium and heavy-duty operation. Staples in single- or double-leg, narrow or wide-crown tackpoints, in a variety of lengths and sizes. (Specify use. Submit samples.)



A. L. HANSEN MFG. CO.

9934 RAVENSWOOD AVE., CHICAGO 40, ILL.

### Behind the crisis

THE MIDDLE EAST, OIL AND THE GREAT POWERS by Benjamin Shwadran. Frederick A. Praeger, 150 East 32nd Street, New York, N. Y., 300 pages, \$7.

This highly documented history of the Western powers' oil exploitation in the Middle East is particularly valuable in the light of recent developments. For anyone wondering why we are not more popular with the peoples of the Middle East, Dr. Shwadran has some very discouraging facts.

### Investment tips

APPRAISAL AND MANAGEMENT OF SECURITIES by Douglas A. Hayes. Macmillan Company, 60 Fifth Avenue, New York 11, N. Y., 383 pages, \$6.

Suspicious of Somerset Maugham's contention that "it is better to be lucky than clever," Mr. Hayes offers some valuable insights to the "outside" investor in industrial securities.

His approach is strongly critical rather than descriptive. At the cost of considerable complexity, he has empirically explored the easy solution and generalization. The book

is well documented by figures from existing companies.

### Training guides

SALESMEN IN THE MAKING by Fred De Armond and Harry N. Brown. Mycroft Press, 2115 Sherwood Road, Springfield, Mo., plastic looseleaf binding, 239 pages, \$5.

A handy practical manual to help train wholesale route salesmen. The first part presents procedures and suggestions for conducting sales meetings without inducing boredom. The second section is a text book for the salesmen themselves.

### Success on the rostrum

THE ROAD TO PERSUASION by William Muehl. Oxford University Press, 114 Fifth Avenue, New York 11, N. Y., 254 pages, \$3.95.

Mr. Muehl writes effectively of effective public speaking. His approach is psychological without being inspirational and practical without being trivial. His chapter on delivery contains a good analysis of changes in modern speech presentation necessitated by social and technological changes. Another chapter is devoted exclusively to



WILLIAM JENNINGS BRYAN

giving radio and television speeches. Mr. Muehl also has some interesting observations to offer on why Americans are especially addicted to panic on the rostrum.

### Top management moves

THE EXECUTIVE LIFE by the editors of Fortune. Doubleday and Company, Inc., Garden City, N. Y., 233 pages, \$3.50.

A collection of thirteen articles from Fortune magazine which attempt to describe the characteristics, habits, and function of top executives as a class.

### Marketing musts

TRADE SHOWS AND COMPANY EXHIBITS. Portfolio 4, Printers' Ink Books, Pleasantville, N. Y., 64 pages, \$10.

CO-ORDINATING SALES AND ADVERTISING. Portfolio 5, Printers' Ink Books, Pleasantville, N. Y., 63 pages, \$10.

Printers' Ink has been publishing a series of bi-monthly booklets entitled "Portfolios for planning." Each includes over a score of short articles exploring a specific phase of marketing.

These latest portfolios are rich with facts and helpful tips presented in a well-illustrated format. The articles first appeared in *Printers' Ink*.

### Protecting yourself

YOUR RIGHTS UNDER LABOR LAWS by Carl Kachlin. Oceana Publications, 43 West 16th Street, New York, N.Y., 94 pages, \$1.

Fundamental laws governing labor-management relations are explained lucidly in this handy paperback booklet. The author, a lawyer, has managed to avoid getting tangled in legal terminology and concentrates on the practical meaning of present legislation.

**PITTSBURGH PLATE GLASS COMPANY (WORKS #7), CUMBERLAND, MARYLAND** — This \$34,000,000 plant, three-quarters of a mile long, is scheduled for production in 1956. It is the first complete new plant built in over 30 years for the production of plate glass of precision optical quality.

**LOCKWOOD GREENE**  
ENGINEERS-ARCHITECTS

Boston 16, Mass. 316 Stuart Street      New York 17, N. Y. 41 East 42nd Street      Spartanburg, S. C. Montgomery Bldg.

OVER A CENTURY OF INDUSTRIAL PLANT DESIGN EXPERIENCE

Brochure available on request

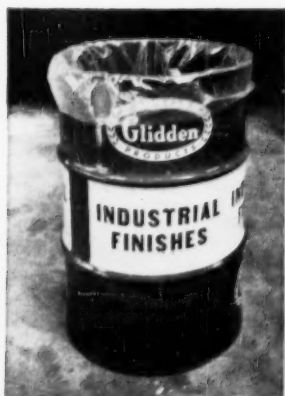


"With previous forms of linings, we had to carefully screen every one for pin-holes, tears or streaks in the lining, before delivery. Men could often be tied up for hours in inspection. By using polyethylene film bags for liners, we eliminate this inspection operation." Liners are supplied by **M. J. Earle Suppliers**, Reading, Pa., and **Greene Manufacturing Company**, Philadelphia, Pa.

*"the tough  
polyethylene  
drum liner*



# prevents acids from attacking the iron"



Drum liners made of **BAKELITE** Brand Polyethylene "have solved the hitherto serious problem of maintaining the viscosity of paint and latices during shipping and storage."

John P. Harner, Glidden Company, Reading, Pa., further reports: "The polyethylene film liner is durable, chemical resistant, water resistant, easy to work with, requires no attention or pre-shipping inspection, maintains the complete viscosity of our paints, has an excellent storage stability, is tough and flexible, protects paints from being contaminated by rusting of the containers, and, above all, assures us of a safe delivery."

"A paint's viscosity affects its uniformity of color, application characteristics, consistency and drying properties. Any deviation from the norm becomes a serious and expensive problem. However, we have found that material stored in this polyethylene lining for an indefinite period is as stable as the day it was put in."

Film and other packaging made of **BAKELITE** Polyethylene may well offer you outstanding cost savings for shipping or storing chemicals. See your packaging supplier or write Dept. UO-42

*It pays to package  
in materials made with*



**BAKELITE COMPANY**, A Division of Union Carbide and Carbon Corporation **UCC** 30 East 42nd Street, New York 17, N. Y.

The term **BAKELITE** and the Trefoil Symbol are registered trade-marks of UCC.





**looking for an outpost on "wall street"?**

**... focus on the people at**

Wall Street is more than the home of the New York Stock Exchange. It is one of the leading financial centers of the world. If your customers and your bank have interests here, or are likely to have in the future, you might consider it an advantage to let the people at Chase Manhattan serve as "your eyes and ears on Wall Street."

Chase Manhattan people are bankers first to last, and can appraise the moods and activities of "the Street" in terms of *your* needs and opportunities. If your bank needs a correspondent in New York, "why don't you talk to the people at Chase Manhattan?"

*Write for our quarterly publication, "Business in Brief."*

THE  
**CHASE  
MANHATTAN  
BANK**

HEAD OFFICE: 18 Pine Street, N.Y. 15

*Member Federal Deposit Insurance Corporation*

## How to save materials and solve pollution problems

### Solving those weighty problems

In industry to-day, scales are used in hundreds of different ways—to count parts, meter materials, and control production operations, as well as for weight determination. But they're more of a hazard than a help unless they're properly calibrated and maintained, and that's a job that can't be left to chance. It calls for planning and supervision.

The photographs on this and the following page show how one company, Armco Steel, takes care of its scales and how it enlists the aid of carriers and law enforcement

agencies in keeping its galaxy of portable, tension, floor, conveyor, crane, truck, and track scales on the beam.

Armco has enough work at one location to keep two full-time scale maintenance men on the job. But even in a small company that has only a few scales management can designate one man to be responsible for their care. Then, it is important to make sure he takes full advantage of assistance offered not only by carriers and law enforcement agencies, but also by scale makers and the Weights and Measures section of the National Bureau of Standards.

### Helpful hints for fire fighting

Which fire extinguishers are best for general use? Why do electrical equipment fires require a special kind of extinguishing medium?

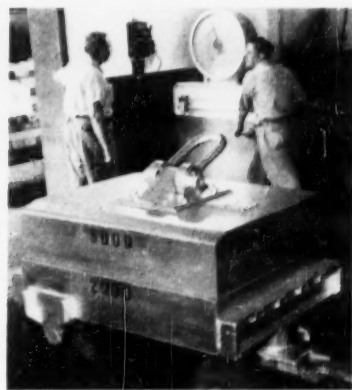
These and many other important questions about fires and fire extinguishers are answered in several new publications:

A special issue of Walter Kidde's house organ, *Kidde Industry*, lists the various types of portable fire extinguishers and explains the new Underwriter's Laboratory ratings.

For those planning new plants,



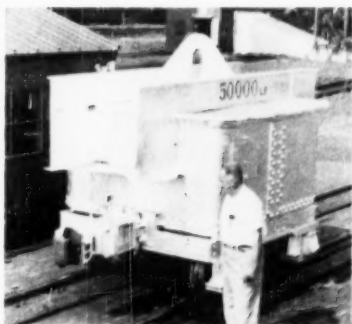
Portable scale is checked regularly with small standard weights.



Platform scales are tested with Armco steel ingot, cut to exact weight.



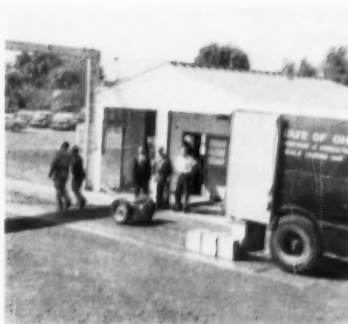
Government experts provide double check. Here, official seal is attached.



Track scales are calibrated by Armco test car, then railroad unit (right).



Railroads scale-makers assist users with special equipment like this.



State agency sends this mobile unit to help Armco test its road scales.

It's more important  
than ever to specify

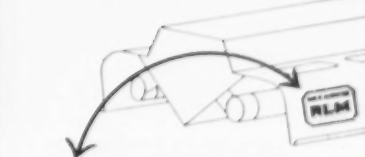
## RLM-Labeled INDUSTRIAL LIGHTING EQUIPMENT



New  
RLM higher quality  
specifications contained in this  
free booklet explain why . . .

New illumination data and complete up-to-dating of specifications for 36 different RLM industrial lighting units, make this new RLM Book more useful than ever to buyers, sellers, specifiers of industrial lighting equipment. An important change concerns the use—for the first time in RLM specifications—of the Zonal Method of computing Coefficients of Utilization. The tables printed in this new edition are based on this method. You'll also find helpful light distribution curves on both incandescent and fluorescent equipment, including the new Semi-Direct fluorescent units, which direct 20% to 30% of the light upward. In addition, there are important changes in the RLM Standard Specifications covering materials, construction and photometric performance. For your complimentary copy write:

RLM Standards Institute  
Suite 833, 326 W. Madison St., Chicago 6, Ill.



27 LEADING MANUFACTURERS  
make industrial lighting equipment bearing RLM label;—list will be sent with your free specification booklet.



# one **TORNADO**<sup>®</sup> vacuum cleaner gives you the service of SIX machines



It's almost like magic the way this all-purpose Tornado series 80 vacuum cleaner does the job. Generating 325 m.p.h. suction speeds, it makes short work of chips, dust, water and oil. The versatility will startle you! A slight twist of the motor unit and it converts to five different cleaners. No matter what your cleaning problems may be, if it is now done with air, brushes, brooms or rags, it can be done faster and better with Tornado.

Write for Catalog 660 and an "in plant" demonstration now.

## **BREUER ELECTRIC MFG. CO.**

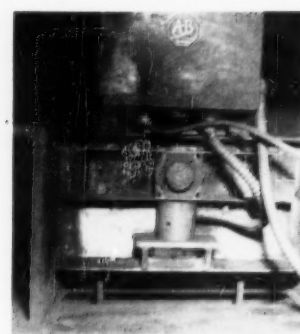
5106 North Ravenswood Avenue

Chicago 40, Illinois

See us at the Sanitation Maintenance Show, New York Coliseum, October 14-16, Booths 301-302.



Electric strain gages built into crane trolley provide Armco with a convenient and highly accurate scale for weighing electrodes used in melt shop. This scale is checked with standard weights three times each day.



and those interested in special aspects of flammability, the National Fire Protection Association, 60 Battery Street, Boston 10, Mass. has a big collection of books and leaflets. Among those published in pocket-sized editions this year are: *General storage standards* (35 cents), *Gas systems for welding and cutting* (35 cents), *Explosive dusts in aluminum processing and finishing* (25 cents) and the *National Electrical Code* (\$1).

Also new is a series of data sheets on flammable liquids, prepared by the Technical Services Section of The Protectoseal Company, 1920 South Western Avenue, Chicago 8, Ill. They cover characteristics, hazards, and safe handling practices.

### *Boxing the atom*

A new and remarkable neutron-shielding material, recently released by the AEC for industrial production, is now being supplied on a commercial basis by Alcoa and Brooks & Perkins.

Like many reactor materials, this one, called *boral*, is an unusual combination—boron carbide and aluminum—and it is far from inexpensive. Sheet one-eighth inch thick costs \$8.50 a square foot, and one-fourth inch material about \$14. But its neutron-shielding ability is said to be equivalent to that of a concrete slab with a thickness 100 times as great. Sheets up to 48 inches wide and 120 inches long are being made and they're available in two tempers—annealed and "as-fabricated."

### *In brief*

Transfer labels that are applied with heat and pressure instead of water have been developed by

Dennison Manufacturing company. Dennison calls the process *Therimagraphy* and says it produces a distortion-free imprint that looks much like rotogravure printing, yet offers the small-run economy and inventory savings of roll-labeling. The company predicts broad applications in marking and decorating films, papers, and metal and plastic containers. For applying the new *Therimage* labels, Adolph Gottscho, Inc. has designed a unit, called an *Imagraph*, which can be installed on standard wrapping, bundling, and bag-making machines.

Magnetic core material is made of non-strategic elements, promises high performance at competitive cost. It's an iron-silicon-aluminum product in flake form (produced by warm-rolling the powder mixture) that is said to offer unusually high permeability with low eddy current loss. Naval Ordnance Laboratory, which did the development work and named the material *Flakenol I*, says it can be used in "any application that now requires molybdenum-permalloy." Since the latter is an 80 per cent-nickel composition, that could mean a big saving of nickel. (Incidentally, if the basic composition of *Flakenol I* looks familiar; it is. The powder mixture is a material called *Sendust*, developed by the Japanese about 20 years ago. But the powder compacts were brittle and had low permeability. NOL says rolling makes the flake product much stronger and triples its permeability.)

Vaper-proof thermal barrier combines aluminum foil and glass fiber mesh in a "sandwich" that's strong and flame-resistant. Called *R.S.V.P.*, it can be used to face



Facts to consider when you're buying

# Chromate Conversion Coatings

## for Corrosion Protection, Paint Base, Decorative Finishing

### WHAT IS IRIDITE®

Briefly, Iridite is the tradename for a specialized line of chromate conversion finishes. They are generally applied by dip, some by brush or spray, at or near room temperature, with automatic equipment or manual finishing facilities. During application, a chemical reaction occurs that produces a thin (.00002" max.) gel-like, complex chromate film of a nonporous nature on the surface of the metal. This film is an integral part of the metal itself, thus cannot flake, chip or peel. No special equipment, exhaust systems or specially trained personnel are required.

If your company is manufacturing or buying parts or complete assemblies made from or plated with any of the more common non-ferrous metals—zinc, cadmium, aluminum, magnesium, silver, copper, brass or bronze—you've probably already run up against the question of finishing these surfaces with a chromate conversion coating. These coatings are used to protect against corrosion, or to provide a base for paint or to provide a decorative finish for sales appeal or shelf life. Since chromate conversion coatings represent a relatively new means of obtaining these finishes, this digest of facts to consider may be of value to you.

#### 1. THE COATINGS THEMSELVES.

There are many brands on the market. All are similar in many ways. Each, of course, offers its own specific advantages and these may relate to operating techniques, performance under actual use conditions, cost, availability, etc. Naturally, you'll want to choose a coating that is widely known and accepted under both military and civilian specifications.

#### 2. THE COMPANY BEHIND THE PRODUCT.

Is it a reliable, established organization? Does it offer experienced technical service, both from the field-engineering organization as well as the home office and laboratories? The man who sells and services your installation should be thoroughly familiar with not only chromate conversion coatings and their applications, but also with the characteristics and performance of related finishing operations such as pre-cleaning, electroplating, painting, etc. This is most important since all steps of the finishing cycle must be functioning properly for the satisfactory performance of the ultimate finish produced.

#### 3. AVAILABILITY OF THE PRODUCT.

Ideally, of course, the material should

be readily available to you from nearby warehouses to avoid time loss in long distance shipping and to provide emergency service, should the need arise.

**4. COST.** Naturally, the initial price of the material is important to you. However, just as you consider ultimate cost when you are buying mechanical equipment, ultimate cost must be considered for these finishing chemicals. So, it will pay you to investigate consumption costs, labor costs and the other factors which go into the determination of ultimate cost. Further, cost alone gives no indication of product performance, so careful attention must be given to the purpose the finish must serve and the value that finish will add to your product.

#### 5. FACILITIES FOR RESEARCH AND DEVELOPMENT.

Perhaps the existing types of chromate conversion coatings do not include a compound that will accomplish exactly what you wish. Then, it is important to deal with a supplier who has adequate research and development facilities available to work with you to produce a material to meet your needs. Naturally, such a project is seldom completed overnight. But, with complete cooperation and confidence from both you and your supplier, chances are a satisfactory program can be completed.

These are the concepts of sales and service on which we, Allied Research

Products, Incorporated, have developed and marketed the line of Iridite chromate conversion coatings... superior product performance, complete sales and technical service, easy product availability, economical cost, extensive research and development facilities. No doubt you are familiar with our line and have seen this trademark—

## IRIDITE®

—in our advertising, technical literature or on shipping containers in your plant. Remember this trademark when you're buying or investigating chromate conversion coatings for your company. It's your assurance of quality, economical products from a reliable and established company, skilled sales and technical service from both our home office and a national network of representatives, immediate availability from warehouses in strategic industrial areas and our willingness to work with you to develop new finishes to meet your needs, should the present line fall short.

For complete information on Iridite chromate conversion coatings, write today for your free copy of our technical data file. Or, for immediate advice, call in your Allied Field Engineer. He's listed under "Plating Supplies" in your classified telephone book.

### ALLIED RESEARCH PRODUCTS

INCORPORATED

4004-06 E. MONUMENT STREET • BALTIMORE 5, MD

Manufacturers of Iridite chromate conversion coatings for corrosion resistance, paint systems, final finishing of non-ferrous metals; ARP Plating Brightener & Chemicals. West Coast Licensee—L. H. Butcher Co.

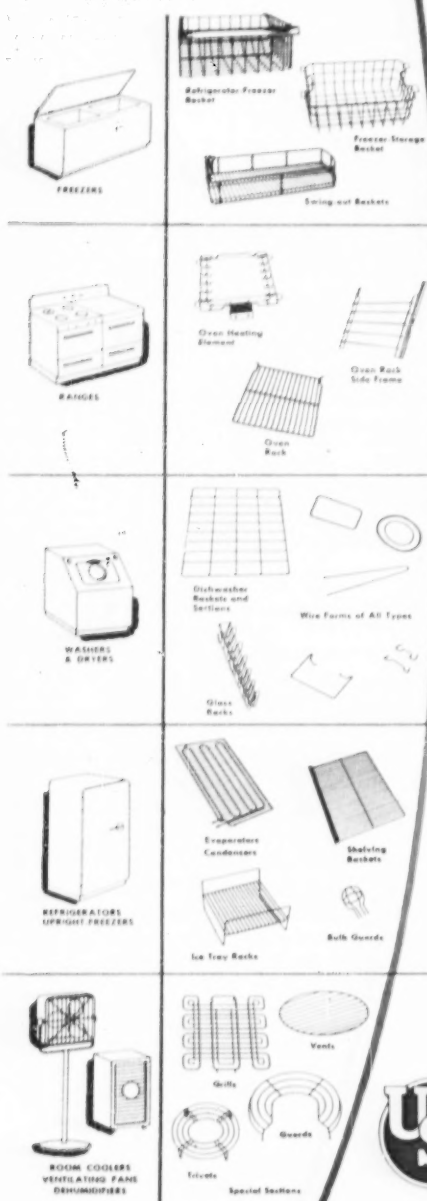
ONLY

WIRE



CAN DO SO MANY JOBS

SO WELL!



Wire is an important functional "part of the product" in every American appliance. Wire is the preferred material because of its engineering, manufacturing and styling versatility, its strength, its lasting beauty and sound dependability. Wire... welded in the desired shape and size—plated in the finish required, is basically essential to the appeal, the sale and the continued satisfaction of your appliance.

And...if you are designing new appliances or reviewing current production, why not select the one manufacturer who has specialized in producing quality welded wire products for over half a century? Specify Union Steel... the experienced source that guarantees higher quality in every operational phase—plus on time delivery.

Union Steel's engineers will be happy to assist you in planning and producing a welded wire part or assembly that will make your appliance—or product—even more efficient. Why not call them now?

**UNION STEEL PRODUCTS CO.**  
ALBION, MICHIGAN



Gentlemen: Please assist us, without obligation, with your suggestions for the use of fabricated and finished wire in our product.

Name \_\_\_\_\_ Title \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

☐ Please have a USP representative contact us at once. We are interested in

wool-type insulation blankets and pipe sheathing, or as combination reflective insulation and vapor barrier. Dobeckmun Company makes it.

Four new alloys for service at and above 1,600° Fahrenheit are offered by Climax Molybdenum. Alloys are molybdenum-based, can be fabricated on tool steel equipment.

Synthetic mica is now obtainable in four different forms— powder, punching sheet, forming sheet, and paper—from Synthetic Mica Corporation for use in electrical and electronic equipment.

Molded nylon Nylite washers with roller-over edge are designed to grip fastening device, provide leak-proof seal.

Synthetic fiber mat for gasketing and weather-stripping, shoe inserts, fabric and film supports, battery separators, filters, and diaphragms offers chemical resistance plus resiliency. A non-woven, bonded material, it's made by Felters Company, using Dynel staple fiber (see September, page 16):

New standard for rigid plastic sheeting (used in ducts, hoods, tank



#### Extruded steels speed toolmaking

New shapes for drills, cutters, knives, thread guides, and other tool and high speed steel parts are made by new hot extrusion process at Allegheny Ludlum. Using molten glass as a lubricant, high alloy steel is squeezed through a shaping die like toothpaste from a tube. AL says that relatively low die cost makes these extrusions economical for short runs; notes savings in machining that are possible when extruded shapes are substituted for standard bar stock. Tolerances are similar to those for hot rolled material.

For those you want to remember...



3 PFAELZER STEAK GIFTS for your list. Gift 2b

12 Pfaelzer Steaks 18 Filet Mignon, 4 Jumbo Boneless Sirloin approx. 1 1/4" thick.

\$30.00

Order TODAY! Orders acknowledged promptly.

Also available: Gift 2: Box of 16 Filet Mignons, approx. 1 1/4" thick \$30.00 Gift 1: Box of 8 Jumbo Boneless sirloin, approx. 1 1/4" thick \$30.00

All orders shipped R.R. express PREPAID! Card enclosed. 10 or more boxes earn 2% discount. All prices subject to change.

Shipped "Blas Frozen" ready for the freezer. Perfect arrival GUARANTEED anywhere in the 48 states.

Here's your opportunity to have everyone on your holiday gift list enjoy the same flavorful Pfaelzer U.S. Prime Boneless Strip Sirloin and Filet Mignon served in the nation's leading clubs, hotels and restaurants. Actually, you'll be entertaining them in their own home, treating them to a dining pleasure that makes an unforgettable impression. You send your gift list and your order, we do the rest. All steaks packed in attractive gift box and holiday shipping carton. Pfaelzer Steaks not available in any store.

For other distinctive Pfaelzer Gift items write for free Gift Guide No. 56.



**Pfaelzer Brothers, Inc.**

Dept. DR-1 • Union Stock Yards • Chicago 9, Ill.

#### A clear explanation of the traffic manager's work

• This book provides a clear working understanding of the fundamentals of industrial transportation... covering the entire field from the practical operating viewpoint of an industrial traffic manager who has spent more than 20 years in traffic management.

#### PRACTICAL HANDBOOK OF INDUSTRIAL TRAFFIC MANAGEMENT

By RICHARD C. COLTON

Vice President, Lykes Brothers Company, Inc. 6x9 1/4 384 pages, 63 ills., \$6

A MODERN INDUSTRY BOOK

• The material in this book provides both valuable basic information for the beginner and a broader understanding for the professional. Its coverage is so broad and is presented in such an easy-to-grasp, factual manner, the reader can obtain in a relatively short time a fundamental understanding of this difficult and technical profession. Separate treatment is given to rail, motor, water, freight forwarder, air and express service. The book covers freight rates, bills of lading, freight claims, a complete review of export and import, passenger traffic from a "travelling-on-company-business" viewpoint... and many other topics.

Order from Book Department, Dun's Review and Modern Industry, 99 Church Street, New York 8, N.Y.

one manufacturer reports  
**SAVINGS**  
**UP to \$50,000**

another that  
**SAVINGS PAID**  
**ENTIRE**  
**SET SCREW COST**

... all from use of  
**New Type Set Screws**

These and similar savings were accomplished simply by changing to special type Setko Set Screws that solved puzzling problems of vibration... close-precision setting... production-speeding (up to 10 times)... tamper-proofing... floor loss... screw inventory reduction, etc. and resulted in lower-cost, safer, better, more trouble-free operation. Have your design engineer write us his problem and get our Test Samples, Data Sheets and Catalog, all FREE.



ZIP-GRIP  
Self-Locking  
Set Screw



NU-CUP Point  
Set Screw



Fluted Socket  
Set Screws  
Tamper resistant

**Set**  
**Screw**  
**& Mfg. Co.**

660 Main St.  
 Bartlett, Illinois  
 (Chicago Suburb)

**IT IS GETTING  
 TO BE A NATIONAL  
 HABIT...**

**FOR COMPANIES AND  
 BANKS TO DO THEIR  
 WISCONSIN BANKING  
 WITH  
 MARSHALL  
 & ILSLEY**

**Our 108 Years of  
 Experience can save  
 you TIME and  
 MONEY**



**MILWAUKEE 1,  
 WISCONSIN**

**MARSHALL &  
 ILSLEY BANK**

Member Federal Deposit Insurance Corporation  
 Member Federal Reserve System

liners, and other items of plant equipment) has been issued by the Department of Commerce. Based on recommendations of the Society of the Plastics Industry, it is known as *Commercial Standard 201-55 (Rigid Polyvinyl Chloride Sheets)*. Copies from the Government Printing office. Price: 10 cents.

**Dry battery**, small in size but long on shelf life, is announced by National Carbon. Only a third of an inch in diameter, it weighs less than an ounce, is designed for use in electronic equipment. In applications like maintaining the charge on a capacitor, it should give "up to several decades' continuous service," NCC says. Battery ingredients are silver, silver iodide, and vanadium pentoxide.

**Shock-absorbing V-belt** is said to have "built-in spring action" that reduces vibration and noise as much as 40 per cent. Called the *Vibrasorb*, it's available to original equipment makers from B. F. Goodrich.

**Midget TV camera**, developed at Lockheed, is only 1-3/4 by 2 by 5 inches in size, weighs less than two pounds. It's designed to get inside test chambers, piping, and electrical equipment and let engineers see what goes on from a safe distance.

*More news on page 126*



**Safer, hotter, easier**

The old blast burner has a new look and new safety and operating features that are designed to make it more versatile, easier to use, and more effective. This new version, called the *Multi-Flame Burner* by Fisher Scientific Company, its manufacturer, is said to permit selection of any flame size without changing tips, to be cool and silent in operation, and to work on any industrial gas at normal pressures. Price is about \$70.

# Answer to your 64 Acre Question

**Found ... in B&O's Land of  
 Big Opportunity**

A 64 acre site—or any other acreage you need!

Let B&O's long and varied experience in plant location go to work for you!

B&O's Land of Big Opportunity is the proved center for national distribution... resources are tremendous... power plentiful, rail transportation fast and dependable. Without question, we can suggest a site to suit! Look them over on the ground, or see them at your desk in 3-dimensional color and air views. Ask our man!

THIS  
 SPECIAL STUDY  
 ON REQUEST FROM  
 The B&O Railroad,  
 Baltimore 1, Md.



YOU CAN REACH HIM AT:  
 BALTIMORE 1—LExington 9-0400  
 NEW YORK 4—DIgby 4-1600 CINCINNATI 2—DUmbar 1-2900  
 PITTSBURGH 22—COurt 1-6220 CHICAGO 7—WAbash 2-2211

**Baltimore & Ohio Railroad**  
 Constantly doing things—better!



Start your sales appeal with the finish



## UDYLITE Closest Plating Control for the Schick Closest Shaver

Schick Incorporated, first in electric shaving has made constant improvements in design and manufacturing techniques to make Schick Shaver the "closest shaving instrument ever invented".

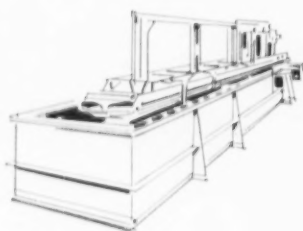
Superhoned Heads—a motor that moves twice as fast as an airplane engine in full flight—and precision comb edges are combined by Schick to shave every whisker as close as your skin.

For such a precision instrument as the Schick Shaver there must be the closest control of its chrome plating.

Since the Udylite Full Automatic plating machine was installed in the new Schick plant in Lancaster, Pennsylvania, over a year ago, plating quality has been greatly improved and plating costs more satisfactorily reduced. Udylite Plating Efficiency has successfully met the demands of finest finish as well as these extreme technicalities of tolerances.

The unbeatable combination of Udylite Automatic Equipment and Udylite Plating Processes are your assurance of finest metal finishes at lowest costs.

... whatever your product  
whatever your metal finishing  
problem ... it pays to  
consult Udylite.



World's Largest  
Plating Supplier

## NEW METHODS AND MATERIALS

### What smog control means to your plant

Removing dust and fly ash from waste gases is only the first step in solving air pollution problems, as many a sadder-but-wiser plant executive can testify. Disposing of the waste materials collected can be an even tougher problem. When water-wash methods are used, an air pollution problem may become a liquid waste headache. When collection is "dry," there may be tons of dusty, dirty powders.

But, pollution control is no longer an optional matter. It is a problem that must be faced as states, counties, cities and towns across the country pass new laws and tighten existing regulations.

In most cases, the best that management can expect from its pollution control efforts is to keep costs to a minimum by reducing the amount of waste that is produced and adopting the most efficient system for disposing of that which remains. (There are cases in which reclaimed wastes can be made to pay for themselves. But so far, these are in the minority, though research like that described on the opposite page holds out a good deal of hope for the future.)

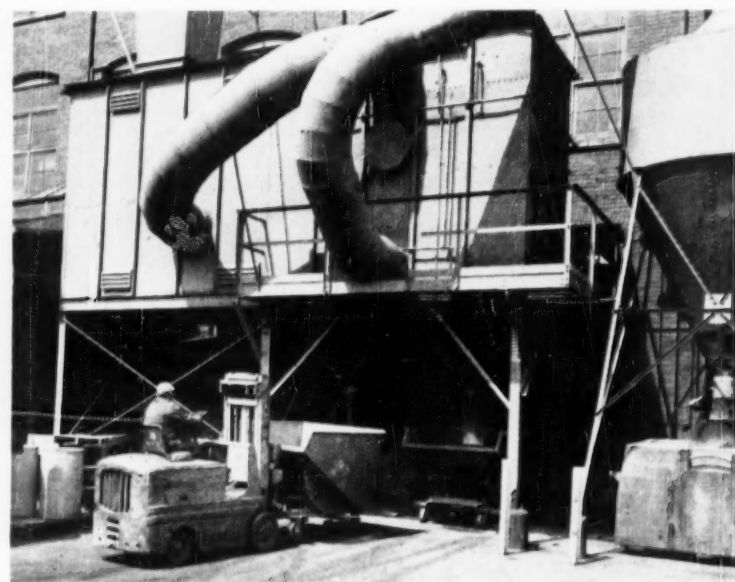
Air-borne wastes can be reduced in several ways. Black smoke can be eliminated by proper combustion methods, for example; and the particles produced by chemical reactions by more efficient processing techniques.

Adjusting production to take advantage of favorable wind and weather conditions for dispersion of stack exhausts can even permit installation of smaller, less costly collection equipment.

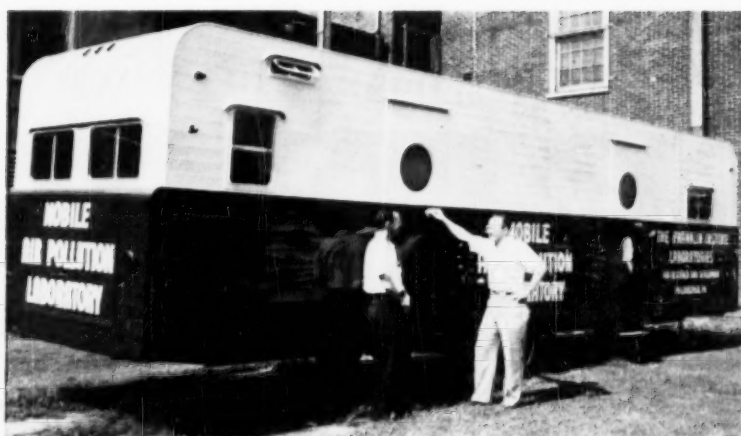
Many helpful suggestions along these lines may be obtained from equipment suppliers, the Air Pollution Control Association, and the various government agencies.

As to efficient disposal of collected wastes, this is primarily a bulk handling problem—whether the wastes are later to be used in the plant or carted off to a dump heap. Here, good materials-handling procedures and proper selection of equipment (see photograph below) can go a long way toward solving the problem: and, again, equipment suppliers can help.

In general, the company faced by air pollution control problems would do well to begin its work



Caster-mounted, self-dumping hoppers simplify disposal of dusts separated from air exhausts at Raybestos-Manhattan plant. Hoppers, made by Roura Iron Works, receive dusts from separators, deposit them in dump truck.



Smog wagon, housing infrared analyzer, will help Franklin Institute researchers identify sources of air pollution. Their work, aimed at devising better control methods, is sponsored by American Petroleum Institute.

(and check up on measures already adopted) by defining the problem, delegating responsibility for its solution, and making provision for future changes and improvements. The Los Angeles Air Pollution Control District, for instance, offers these suggestions:

- ☐ Know the requirements of air pollution laws, rules and regulations (local, state and federal), that apply to your plant.
- ☐ Make an inventory of all possible sources of air pollution within your own business or plant.
- ☐ Provide for regular inspection of equipment and processes which may produce and emit contaminants.
- ☐ Designate a qualified employee as

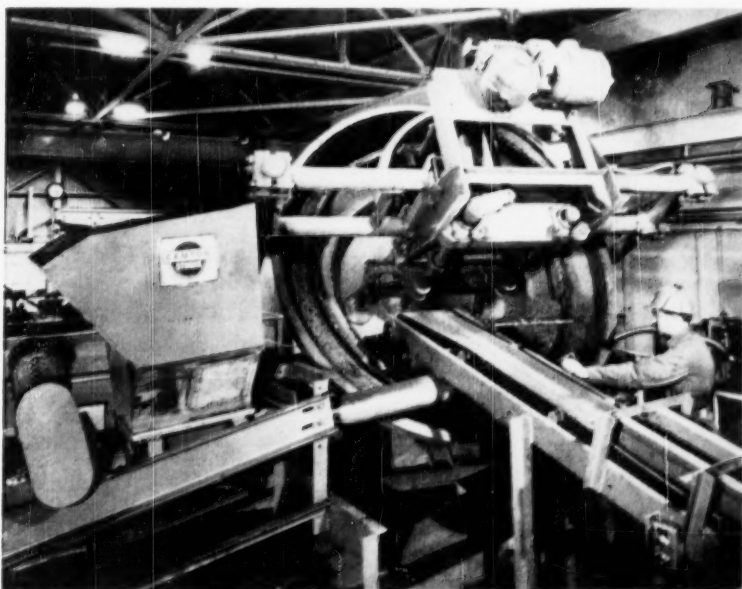
plant "air pollution control officer" to be responsible for your company's program.

☐ Support and encourage your trade and professional associations in research and development efforts leading to the design of better, more efficient air pollution control systems (see photograph above).

☐ Be especially careful about pollution on days when low temperature inversion and light winds threaten your area. Keep in touch with Weather Bureau.

☐ Haul combustible refuse to a central disposal site or burn it in a properly designed and operated incinerator.

How many of these suggestions is your company following now?



Useful outlets for fly ash and other wastes are being sought by many laboratories. Here, Dwight-Lloyd Division of McDowell Company turns powdery ash into pellets for use in experimental lightweight building blocks.

## Your **PROFITS**

are in the balance....

Choose

# DETECTO

the scale with these

# 3 Exclusives

- 1** Exclusive all-steel construction and all-steel lever system (not cast iron) assures longer, trouble-free scale life and less maintenance cost.
- 2** Unique outboard bearing design prevents platform tipping. This means that you get *completely* accurate weighing on any part of the scale.
- 3** DETECTO's tare and weigh beams extend the dial capacity 125%. This means that you get *greater* gross weighing with minimum dial graduations.



Fractional weighing errors may seem inconsequential, but they add up to a staggering annual loss. When materials mean money, you are wise to depend on DETECTO, the most dependable name in precision industrial scales for more than half a century.

DETECTO makes scales for every industrial need, ranging from 1/100 oz. to 50 tons. Models for packaging, parcel post, printing, counting, over-under attachment, portable beam, etc. Write for free, no-obligation catalog.

SALES and SERVICE in all principal cities

Fine Scales  
**DETECTO SCALES**  
Since 1900

## DETECTO SCALES INC.

501 Park Avenue, Brooklyn 5, N. Y.

Deteco Scales, Inc.  
501 Park Avenue, Brooklyn 5, N. Y.

Gentlemen:

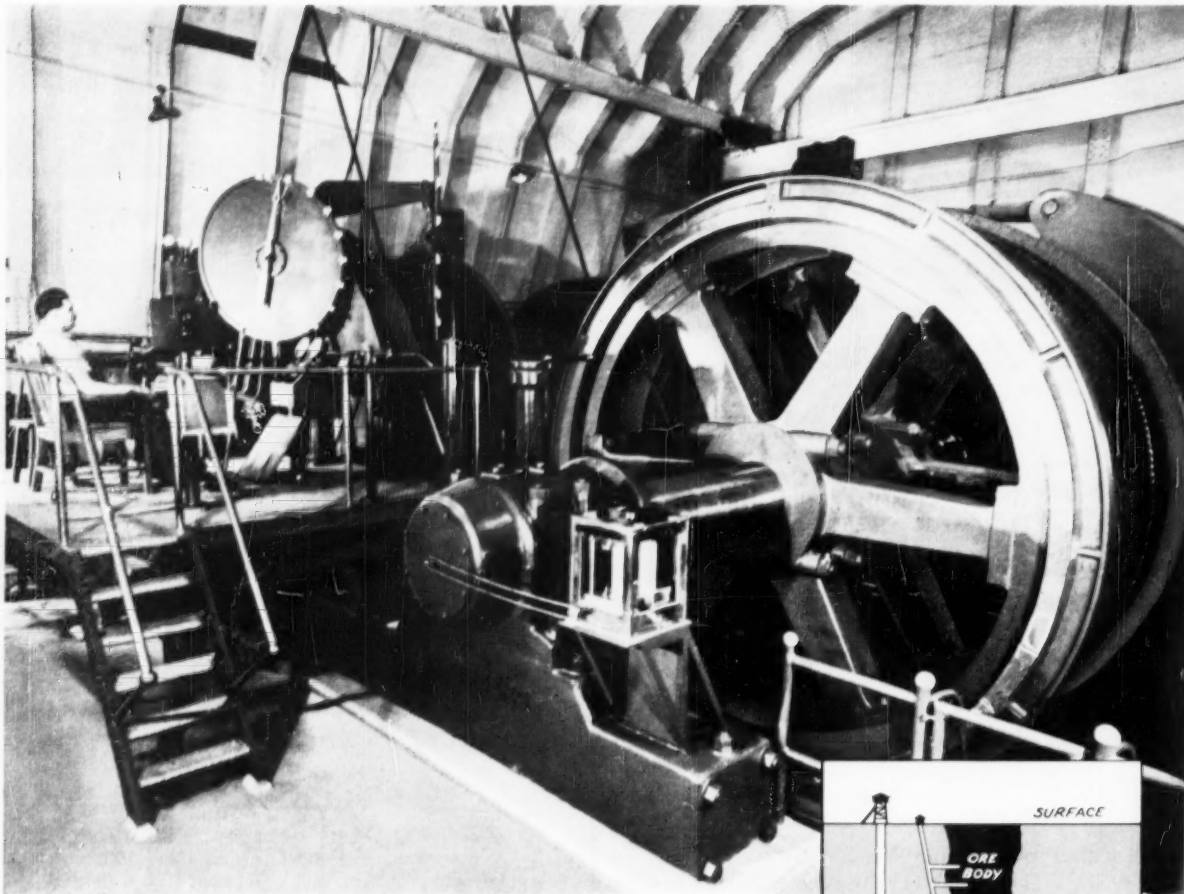
Please send me catalog #651 describing DETECTO precision industrial scales. This, of course, obligates me in no way.

Name.....

COMPANY.....

City..... Zone..... State.....

## Nickel Progress Report



Located 3827 feet below ground, this hoist drum serves mining activities still further down. Down more than a mile, in fact!

### Inco works a mine within a mine

Do you want to share a sight few people have ever seen? Then visit, in imagination, International Nickel's Creighton mine.

Take the cage to the 52 level, 3827 feet below the surface. You'll see many new mining developments; but one you'll never forget.

It's the head of a shaft that leads to greater depths as if to another, deeper, nickel mine.

The shaft leads to level after level under you. Just as though it had been started at the surface—instead of more than half-a-mile below.

**This mine within a mine** has its own miles of "workings"—developed to reach new ore bodies located far below the 52 level of the larger mine of which they are a part.

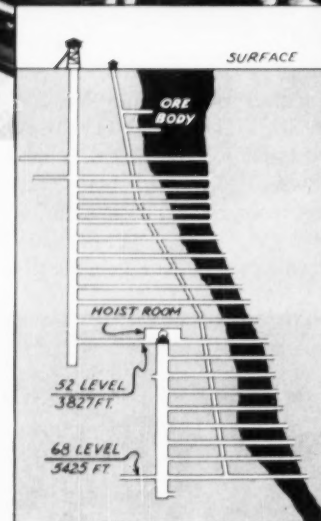
Serving this self-contained unit are its own railway tracks, power lines, pumping and ventilating

systems. In almost any sense, this unit is complete—larger by far than most mines that have been sunk and operated separately.

*Only the advanced methods used in Inco mines could produce Nickel at today's prodigious rate.*

And continuous exploration to *improve* ore reserves gives promise of future supplies.

These are reassuring facts for the manufacturer of metal products intent on winning quality markets in the years to come. For with Inco Nickel in them, metals perform better, longer.



See where the hoist room is: 3827 feet below ground. Then see how much deeper this Inco mine within a mine goes: down below the mile level! Color film, "Mining for Nickel," is loaned to technical societies, universities, industry. The International Nickel Company, Inc., Dept. 89e, New York 5, N. Y.

©1956, T. I. N. Co.



## International Nickel

Producer of Inco Nickel, Nickel Alloys, Copper, Cobalt, Tellurium, Selenium and Platinum, Palladium and Other Precious Metals.



# Films for Management . . . THOMAS KENNY

## Reviews of new motion pictures on bottles, plastics, and other topics

THE CARE AND HANDLING OF BUYERS—(35 minutes, B&W) is one of the key parts of Republic Steel's program to transform order takers into order makers. Along with nine other new films and additional material, it makes up a series of six meetings which Republic is conducting for its 400 distributors of steel pipe.

This program of intensive training for distributors' salesmen is probably the first one of its kind in

the steel industry, where the need for more operating capacity has been more pronounced than the yen for new orders. Now however, with competition more intense, Republic is adapting sales training techniques that have paid off in other industries.

The program began with intensive research into the sales problems of distributors and more interestingly into the particular likes and dislikes of purchasing agents. The re-

sults of the study are of wide applicability and are in no sense limited to the steel pipe industry. In December you'll be able to borrow a print of this sales training film by writing to Order Makers Institute, Republic Steel, Pipe Sales Division, Cleveland 1, Ohio. Another film with wide appeal—MANAGING SELLING TIME—will also be available at that time.

This new film on pleasing purchasing agents tells the wry tale of a troubled salesman who is led from failure to success—almost against his will—by anonymous advice from one who should know best—

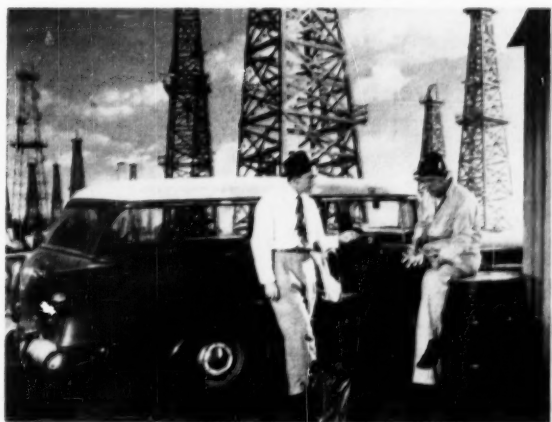
### The care and handling of buyers



Don't try to keep in touch with buyers only by telephone. One personal visit is worth a dozen phone calls.



Don't bluff. If you don't know the answer to a buyer's question, admit it and promise to get the information.



Purchasing agents depend on salesmen for their outside information, but keep in mind that it better be right.

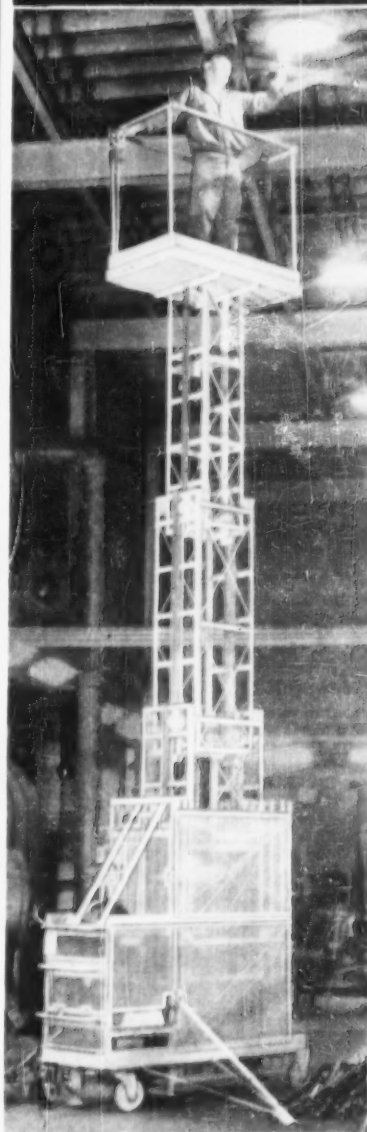


Don't confine your sales calls just to your friends, but try to make friends of all buyers on whom you call.

THE MAN WHO FEELS SAFE  
WORKS BETTER

## Economy HI-REACH TELESCOPER

ENGINEERED FOR STRENGTH  
STABILITY AND SAFETY



Safety is our first consideration in building Hi-Reach Telescopes.

During the past quarter of a century of making Hi-Reach Platform Telescopes, our engineers have constantly improved the mechanical construction to obtain maximum stability, smooth time-saving lifting action, and safety.

Standard Models available from 10'-9" to 35 ft. high, and custom-built units as high as 100 ft. if you like.

**ECONOMY ENGINEERING CO.** EST. 1901  
4516 W. Lake St., Chicago 24, Ill.

ECONOMY ENGINEERING CO.  
4516 W. Lake St., Chicago 24

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

**CONFIDENTIAL**

## PLANT LOCATION FACTS

### on financial assistance the free enterprise way

Financing a new plant today is a problem for any business, large or small.

In New York State, many banks, insurance companies and investment houses are willing individually to help you in making arrangements to finance new operations or build new plants. In addition, by special charter of the State Legislature, there has been established in the State of New York the New York Business Development Corporation. This organization is privately financed and managed and specifically designed to assist qualified enterprises in financing new or expanded operations in the State.

If you have a financing problem, our business is to put you in touch with the proper sources of capital. Therefore, whether you need mortgage money to help finance your new plant in New York State or working capital to cover expanded operations or to offset expenditures for moving into the State, do not hesitate to get in touch with us.

Financing won't be your only consideration in deciding on a new plant. You will want complete facts on labor, markets, water, available sites or buildings, power, fuel, transportation and raw materials, to mention just a few. And you will want information on these as they apply to the successful operation of a specific plant.

#### A tailor-made report

Any or all of the factors important to your analysis will be covered in a confidential report to you—tailored to your needs. It will be prepared by a professional and experienced staff to cover either New York State locations of your choice, or, if you wish, sites which we will select on the basis of your needs.

Our booklet, "Industrial Location Services," explains what we can do for you. To get your free copy, write me at the New York State Department of Commerce, Room 570, 112 State Street, Albany 7, New York.

*Edward T. Dickinson*

EDWARD T. DICKINSON  
COMMISSIONER OF COMMERCE

an experienced purchasing agent.

Here are some of the lessons he learns along the way:

- Purchasing agents dislike salesmen who take a shortcut around them to other executives.
- Purchasing agents depend on salesmen for their outside information about market conditions, new product applications, and other areas. So salesmen should be sure to have something of value to say on every call, but be sure they are right in telling tales to p.a.'s.
- Purchasing agents are busier than ever before. After you've made your sales, get up and get out, before you undo all your previous effort.
- Know the purchasing agents plans and problems. Don't sell him products—sell him solutions.
- Short frequent calls are much more welcome than long infrequent sales visits.

THE STORY BEHIND A BOTTLE (24 minutes, color) is not a diagnostic attempt at alleviating alcoholism.



Rather, it is a prosaic yet fact-filled history of glass containers. Although it is the first film by the Glass Manufacturers Containers Manufacturers Institute, it is certainly not the first film on the history of glass. For example, see DUN'S REVIEW AND MODERN INDUSTRY, April, 1955, for a review of an engrossing film on this subject.

During the past decade, the importance of glass as a packaging material has been slipping as other newer materials have gained. This new film is a major part of the glass manufacturers' effort to recoup their market.

Although bottles may be less numerous in supermarkets, they still seem to hold their unwelcome place on bathing beaches. Perhaps, bottles and other glass containers would rise in public favor if the industry were to embark on an educational clean-up campaign similar to that

conducted by the makers of paper wrappings.

In addition, the film traces the history of glass container making from the legendary discovery by the ancient Phoenicians. Produced by Video Pictures, the film is aimed at varied audiences—schools, churches, adult groups, and others. You can borrow a print from GCMI, 99 Park Ave., New York 16.

GOODBYE STEVE (30 minutes, color) is the newest addition to General Electric's score of motion pictures



which promote "More Power to America." Other films have promoted farm electrification, street lighting, and similar subjects in order to further the sales of electrical equipment. This new film is devoted to power distribution in industrial plants.

Back in 1939 the average production worker in this country used 8,809 kilowatt-hours of electricity on the job. By 1945, this had risen to 10,364 kilowatt-hours. Now it is about 21,000 and is expected to hit 36,000 kilowatt-hours by 1966.

The film calls attention to the problems created for plant management by this rise and dramatizes the difficulties which result from not taking action to accommodate the increase in electrical usage. Too many plant managers take the supply of electrical power for granted, while they concentrate on production machinery.

The film, produced by Wilding Picture Productions, tells the story of an electrical engineer and his efforts to improve the power system in an industrial plant. You can borrow a print by writing to Apparatus Sales Division, Section 6-220, General Electric Company, Schenectady 5, N. Y.

LIFETIME PROTECTION (20 minutes, color) refers to the insulation ad-

## How a Difficult Loading Problem was solved with a Magliner Mobile Loading Ramp

Occupying an older building that had no dock facilities, and unable to keep up with increased shipping requirements, a mid-western food processor faced what seemed to be an insurmountable problem. Realizing the need for a



faster, lower cost loading operation through the use of power trucks and other rolling equipment, the company consulted a Magliner field engineer. The solution to the problem was a Magliner mobile loading ramp. Result: hand loading eliminated—loading time cut in half!

If you have an older building, a yard handling problem, need extra or movable dock facilities—then Magliners can solve your problem too! Combining magnesium strength with magnesium lightness, Magliner loading ramps can be moved by one man... give you a "loading dock" where and when you want it! Magliner loading ramps eliminate hand loading... speed operations... cut expenses! Get the facts on Magliner mobile loading ramps yourself! Write today for bulletin DB-211.



MAGLINE INC.  
P.O. Box 2410  
Pinconning, Mich.

In Canada:  
Magline of Canada, Ltd., Renfrew, Ontario

## TEL-A-STORY COMMANDS ATTENTION!



DRAWS CONVENTION CROWDS...  
PEPS UP POINT OF SALE...  
STIMULATES SALES MEETINGS

Gives Your Product A Colorful Moving Message That Sells

The Tel-A-Story Automatic Projector will sell your product using twelve 35mm or 2" x 2" square transparencies on a 156 sq. in. picture screen. Copy changes automatically every six seconds. Economical to own and use. Ideal for any type product or service.

Write Dept. B  
for illustrated brochure and prices

TEL-A-STORY, INC.  
523 Main Street, Davenport, Iowa

Drake,  
STARTZMAN,  
SHEAHAN  
and BARCLAY

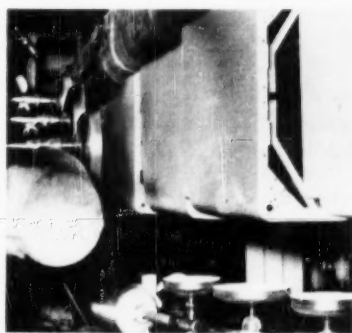
Distribution  
and  
Materials  
Handling  
Consultants

CONTROL, MOVEMENT AND STORAGE OF MATERIALS  
41 East 42nd Street, New York 17, N. Y.



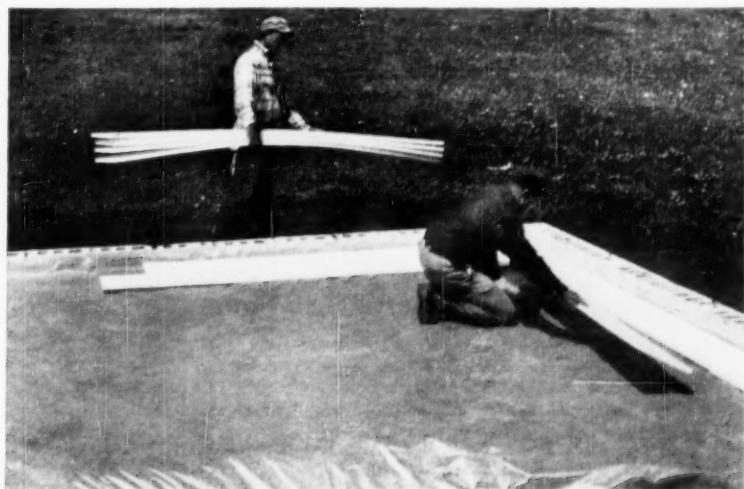
vantages of Dow Chemical's Styrofoam as a building material. While this plastic—expanded polystyrene—has been used in refrigeration lockers, public building, and industry (see DUN'S REVIEW AND MODERN INDUSTRY, November 1953, page 165) it is just now moving into importance as a building material in residential construction. This film was produced to accelerate its acceptance. You can borrow a print of this informational film, which was produced by Atlas Films, from Modern Talking Picture Service, 30 Rockefeller Plaza, New York 20, N.Y.

THE BIG ATTRACTION (30 minutes, color) in this new film is electrostatic painting. Produced by the



Ransburg Electro-Coating Corporation, this fact-packed film illustrates the electrostatic method of painting by which substantial savings in paint and labor costs are achieved.

Rather than propelling paint particles by air pressure, this system creates an electrostatic field between the atomizer and the product to be painted, so that automation is brought to painting on the produc-



Dow Chemical's expanded polystyrene plastic, Styrofoam, is now being used as a foundation insulation in residential construction, as shown in new film.

tion line. The film, which shows installations in many industries, can be borrowed from Ransburg Electro-Coating Corporation, Barth and Sanders Streets, Indianapolis 7, Ind.

INTRODUCTION TO WORK SAMPLING (19 minutes, B&W) is a new educational film which shows quickly



and clearly how to use random sampling for measuring work. It shows how a sample can be used to predict the whole. Prints of this film may be rented for \$3.50 from the Education Film Department, University of California Extension, Los Angeles 24, Calif.

#### New film catalogs

Fifty informational and training films on materials handling are included in the new catalog which is yours for the asking from Material Handling Institute, Suite 758, One Gateway Center, Pittsburgh 22, Pa.

Dozens of films on work simplification are described in the free catalog, "Work Simplification on Film" which is available from the Industrial Management Society, 35 East Wacker Drive, Chicago 1, Ill.

## Cambridge

### WOVEN WIRE CONVEYOR BELTS take the bottlenecks out of WASHING, DRYING, PACKAGING



OPEN MESH of rustproof, all-metal belt provides free circulation of process solutions and drying air, assures waste-free packaging.

Whether you're handling slab, sheet or pelletized materials . . . or packaging in bottles, drums or bags . . . Cambridge Woven Wire Conveyor Belts combine movement with processing. Continuous belt-to-belt flow through washing and drying cycles, roasting kilns, and weighing and sealing operations cuts costs and provides controlled uniform production.

#### NO MATTER WHAT YOU'RE PROCESSING . . .

. . . chemicals, plastics, metal parts, food products, ceramics, glass . . . or whether your process is wet or dry, at sub-zero temperatures or 2100° F. . . you can increase production and cut operating expenses all along the line by combining movement with processing on Cambridge Woven Wire Conveyor Belts.

Cambridge Belts are individually designed for your installation from a wide variety of specifications. The metal or alloy from which they are woven is specially determined after investigating the resistance to heat or corrosion required by your operating conditions.

Ask your Engineering Department to call in your Cambridge FIELD ENGINEER and discuss how you can eliminate batch handling from your processing. The Cambridge man nearest you is listed under "BELTING, Mechanical" in your classified phone book. WRITE for your PERSONAL COPY of 130-page Reference Manual illustrating ways in which other manufacturers have employed Cambridge belts, and including design information.



**The Cambridge Wire Cloth Co.**

WIRE CLOTH METAL CONVEYOR BELTS SPECIAL METAL FABRICATIONS

Department Y,  
Cambridge 10,  
Maryland



OFFICES IN PRINCIPAL INDUSTRIAL CITIES



## VARIABLE ANNUITIES: ECKER

Continued from page 42

years, to the purchase of a variable annuity.

The risks she would then be taking would hardly seem to be in keeping with the security most of us have in mind when taking out life insurance for the protection of our loved ones.

It is most unlikely that the public, accustomed for years to life insurance contracts providing guaranteed benefits, would understand clearly the fundamental departure from a guaranteed annuity contract to a variable annuity contract. Could an able field force explain on the one hand the value of an insurance contract providing guaranteed, fixed payments and, on the other hand, attempt to sell a variable annuity contract which would provide a hedge for the purchaser in case the guaranteed contract did not provide him with all of the purchasing power he had expected? Could a conscientious life underwriter sell fixed-income security and at the same time sell speculation?

### Bull or Bear?

In selling the variable annuity contract, it does not seem reasonable to expect a salesman to dwell upon the possibility of a 40 per cent drop in the stock market and a possible 40 per cent drop in income to the purchaser. It is much more likely that he would talk about the spectacular bull markets or, as discussed in one booklet I have seen, monthly fluctuations of 1 or 2 per cent. And yet, eight times since the turn of the century the stock market, as measured by the Dow Jones Industrial Averages, has dropped 40 per cent or more. And this does not include lesser, although substantial, drops which have occurred from time to time in intervening years. I wish I might feel confident that history will not repeat itself

but, unfortunately, I do not feel that we yet have all the answers. While there have been no substantial drops since the end of World War II, it seems to me that a somewhat longer testing period is required.

The variable annuity is presented on the basis that inflation is inevitable; that something must be done to solve for annuitants the problems arising from a continuous decline in the purchasing power of the dollar.

Of course, this point of view is based on the period through which we have been passing. The important question though is whether or not, in this instance, the past is a good guide to the future. To have a proper perspective one should, of course, look to a longer period than that dominated by World War II and the Korean War.

### Inflation Limited

Over the years, inflation has come in times of major wars and their aftermaths. While it is true that, unlike similar, war-induced inflations over the last 200 years, the price level since Korea has not receded materially, this is scarcely conclusive evidence that further inflation is to be the pattern of the future. I, for one, do not subscribe to such a theory.

We are, of course, fully aware of the increased strength of labor unions and their influence on wage levels. Nevertheless, we do not believe that the old economic laws of supply and demand have been completely nullified.

If we eliminate war as the pattern of the future, is it not reasonable to expect that the conversion of more and more war-time facilities to peaceful pursuits will produce sufficient goods to balance demand?



Similar maps of any American city, county or state.

## Cut 1/3 in truck miles

**STOP**

### MEANDERING DELIVERIES

Route your trucks the **SHORTEST WAY** every trip. The time and gas used by your drivers looking for unknown streets will buy a hundred maps like Hearne's Street Map of your city and county area.

Printed in six colors; street names are in big, black type, and instantly spotted with Hearne's patented, automatic Street Finder. (See border)

Over 100,000 truck owners use Hearne maps every day to give customers better service and cut truck mileage. Many users claim they save the cost of the map in a single day's use.

### HEARNE BROTHERS

*America's Largest Manufacturers of Commercial and School Maps*

25th Floor National Bank Bldg., Detroit 26, Mich.

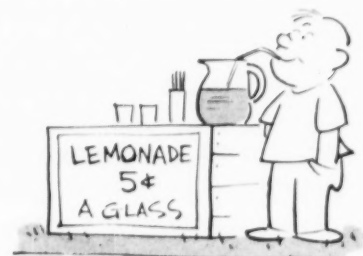
44" by 65" wall maps of any American city, \$42.50 each F.O.B. your office.

44" by 65" wall maps of any American county, \$42.50 each F.O.B. your office.

44" by 65" wall maps of any state in the Union, \$42.50 each F.O.B. your office.

Send for **FREE ILLUSTRATED CATALOG**, containing seven large scale maps showing in color the area covered by our 400 large scale street maps. Absolutely no obligation, no salesman will call.

*If in your operation you use salesmen, our city-county street maps might save your men considerable time. Test after test conclusively proves that this type personnel will make more calls more often if you make it convenient. Our city-county street maps locate instantly and mechanically for your salesmen, any street address in any American city. We will promptly mail one of your secretaries a brochure.*



We have had many periods in the past when a falling price level was a part and parcel of good times.

In addition to the difficulties inherent in the variable annuity theory and the sale of variable annuity policies by life insurance companies, there are other serious problems which will be encountered. We can all agree with the statement contained in the McCarran Act, known as Public Law 15, that "the continued regulation and taxation by the several states of the business of insurance is in the public interest." Apart from taxation, it seems to me that there is grave danger that some federal regulation will come about if variable annuities are sold under the aegis of the life insurance business. Let us consider just two areas of possible federal activity.

#### Two Areas for Concern

1. At present, the aggregate common-stock holdings of the life insurance business are negligible—hardly 2 per cent of their assets and well under 1 per cent of all common stocks in the United States. If, however, the sale of variable annuities were pushed aggressively, these holdings would materially increase. Ownership of common stock carries with it part ownership of the company issuing the stock; it carries the right—indeed the obligation—to vote; it carries a voice in management; it need not be a large percentage of the total to carry with it an element of control. I do not believe it to be in the public interest for life insurance companies to control American industry or any segment of American industry, or even to put themselves in the position of being accused of such control.

In 1938, the President of the United States asked for a study of the concentration of economic power. As a major field for such study, he mentioned "the tremen-

dous investment funds controlled by our great insurance companies." The Temporary National Economic Committee was established by the Federal Congress, and its study of "big business" continued in 1939 and 1940.

During the TNEC hearings, the question was raised as to the control over industry exercised by the life insurance business because of its tremendous accumulation of assets. The question was readily answered when it was demonstrated that, practically speaking, the life insurance companies owned no common stocks. After the conclusion of the hearings, the distinguished Chairman of the Committee, Senator O'Mahoney of Wyoming, said to a spokesman for the life insurance business, "You have come through with flying colors." The answer to the question and the comment of the Chairman might well have been different had the life insurance companies of the country owned a substantial amount of common stocks.

#### Unfortunate Control

The specter of a concentration of economic power, wielding control over American industry, may well be raised again. A different answer in 1938 might well have had unfortunate consequences for the life insurance business. A different answer to-day or twenty years hence may well carry with it these same unfortunate consequences of federal control over the business of life insurance, which has, under state regulation, built up such an enviable record for public service over the years.

2. As we all know, the Securities and Exchange Commission has been studying the question of whether variable annuities are securities and, as such, subject to the regulation of that Commission. In November 1955, one advocate of variable annuities saw no justification

**Track laying  
and surfacing . .  
\$19,427,709.25**

(from the 1955  
Union Pacific Annual Report)



Now, now, Aunt Martha, you don't really mean that. Replacing old tracks with new as soon as needed, and keeping our roadbed in A-1 shape is a fetish with Union Pacific.

We want to give our passengers a smooth, comfortable ride so they'll come back to us again and again.

We want business concerns to know that when they ship or order products routed via the U.P., those products will be transported over a smooth, steel highway . . . free from jolts and jars.

In that way we make lasting friends, build up business and revenue.



**UNION PACIFIC RAILROAD**

Omaha 2, Nebraska



**WHAT IS  
YOUR COMPANY'S  
BEST BUY  
in a  
Retirement Plan**

**DESIGN...** First in importance is selection of the proper plan or plans for your Company.

**INVESTMENT...** Once a plan has been established, nothing is more important than the proper investment of your funds.

We have had many years of experience in the design, administration, and investment of all types of employee benefit plans.

Write or telephone our **PENSION TRUST DIVISION**

**CITY BANK FARMERS TRUST COMPANY**  
Chartered 1822  
 HEAD OFFICE: 22 WILLIAM STREET, NEW YORK  
Affiliate of  
**THE FIRST NATIONAL CITY BANK OF NEW YORK**  
Established 1812

for any federal agency stepping into the variable annuity controversy. He thought that the issuance of variable annuities by life insurance companies would not open "the door for SEC to come into this picture." However remote the possibility of November 1955, it has to-day become a fact and, as was predictable, the Commission has found that variable annuities are securities and, accordingly, subject to its requirements. An action has been started in the United States District Court for the District of Columbia in which the Commission is seeking an injunction to halt the sale of variable annuity policies by a company recently organized in Washington, D. C.

Federal regulation of any phase of the life insurance business is bound to conflict with the present efficient system of state regulation which has been built up over many years; any system of dual regulation by both state and federal governments can well create major problems in the conduct of a business so essential to the personal security of millions of our citizens and so vital to the economy of our country.

#### A Siren Song

In times of prosperity we are prone to forget that there have ever been periods of adversity. During the late 1920's there were many who advocated common stocks as a proper medium for the investment of life insurance funds. The years following 1929 showed the wisdom of life insurance management in resisting the siren song of common stocks and in continuing to follow that conservative course which has been proved to be safe through long experience. During the financial storms of the early 1930's, the life insurance business stood like a rock. Because we have managed our business as a sacred trust, we have merited the highest public confidence. Our ability to sell life insurance protection in the future will depend upon the continuation of this high public confidence in our products.

We do not wish to be understood as being opposed to investment in equities by individuals. We are, however, opposed to such investments unless one first has an adequate amount of life insurance to protect one's dependents. We are adamantly opposed to the use of a

life insurance company as a vehicle for the sale of variable annuities, which in essence, means the sale of shares in a common-stock pool.

It is impossible to change the nature of common stocks. Certainly the stock market is not a one-way street. When a substantial drop occurs, as has repeatedly happened in the past and will happen again in the future, one may be sure that people will be hurt.

Most of us, unfortunately, live up to our incomes during our active years and certainly we have little, if any, margin over expenses in our years of retirement. What will such people do when the monthly income from a variable annuity, which has amounted to \$200, drops to \$175, \$150 or even less? If variable annuities are issued by life insurance companies, surely the confidence of the public in those companies, which has been built up over many years of industrious and wise management, will be severely shaken.

By and large, life insurance company management in the past has refused to be swayed by temporary shifts of opinion and theory. Some of us remember the "New Era" theory of the 1920's and the later theory of the "Matured Economy"! I wonder if the theory of the variable annuity is not, to some extent, a product of the mass psychology of the times?

#### High Responsibility

We must remember, in the words of Charles Evans Hughes, that life insurance "is practically the highest form of trusteeship." We do not want the slightest taint to lessen the public confidence born of that trusteeship. The business of life insurance is a long-range business; our contracts must be performed over long periods of years, in prosperity and in adversity. Our sole concern should be the safety of our policyholders' funds and the earning of a fair and reasonable return.

The life insurance business should be in the vanguard of those fighting inflation wherever and whenever it arises. It should not cast aside all that it has stood for over the years to ride with the wind of a war-induced, temporary inflation and, to mix the metaphor, it cannot successfully ride two horses going in opposite directions at the same time.



## VARIABLE ANNUITIES: FUNSTON

Continued from page 42

which would be afforded under present tax laws to an individual who chose to invest in common stocks through the medium of a variable annuity sold by a life insurance company when compared with the same individual's direct investment of his funds in common stock.

The federal tax law applicable to 1955 income of life insurance companies is based on a formula estimated to result in an effective tax rate of 7.8 per cent on net investment income from dividends, with no tax on capital gains. The dividends earned by an individual's investment in a variable annuity would be taxed to the insurance company on that basis. The net after taxes would accrue directly to the policyholder's benefit. The amount so accrued would contrast sharply with the net after taxes available through direct investment in common stock at the present time, when personal tax rates on dividend income range from 16 to 87 per cent.

In addition, of course, the individual must pay the capital gains tax of up to 25 per cent of realized appreciation from his common stock investments. The life insurance company's complete exemption from the capital gains tax plus the tax sheltered feature of dividends being taxed at a maximum effective rate of only 7.8 per cent result in a pyramiding of the fund accrued for the benefit of the annuity holder to an astonishing degree.

The tax shelter which would be provided to an individual who chose to invest in common stocks through the variable annuity device rather than by direct stock investment is readily apparent. This fact was graphically demonstrated in a memorandum prepared for the New York Stock Exchange by J. K. Lasser & Company, recognized independent tax consultants. The memorandum includes the following illustration:

"As an example, suppose a man and his wife, both aged 35, and in the 50 per cent tax bracket, have \$20,000 to invest for the purpose of providing retirement income at age 65. Further, assume that future stock prices will increase in value approximately 2 per cent a year,

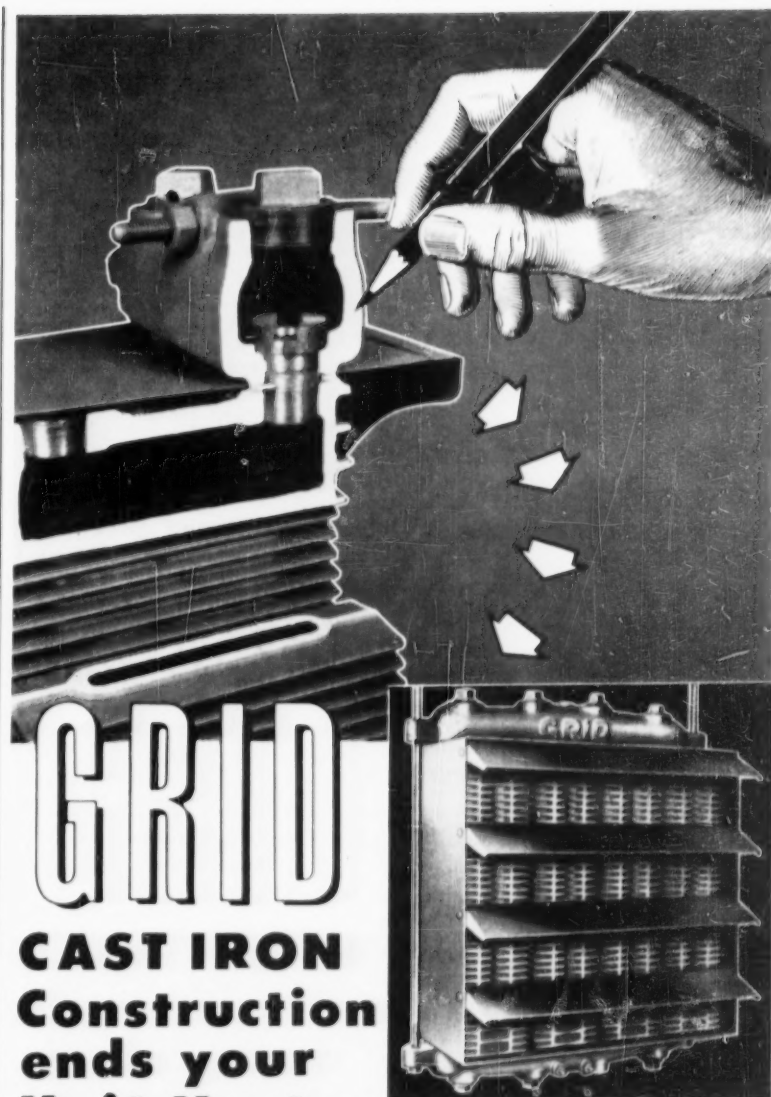
while dividends will average about 5 per cent a year, making an average annual gain of about 7 per cent.

"The purchaser's investment in a variable annuity during the 30-year period would result in no tax on capital gains and only a maximum tax of 7.8 per cent on the dividend income. Thus, the \$20,000 compounded over the 30-year period would create a sum of about \$136,700. Based on a 15-year life expectancy at age 65, this would provide an annual payment of approximately \$14,700. Assuming that the taxpayer, after reaching age 65, has other retirement income which uses up his retirement income credit, he would pay an income tax of about \$2,200 a year, and would be in the 26 per cent bracket. After taxes, his return would amount to about \$12,500 a year, or a total of \$187,500 in 15 years.

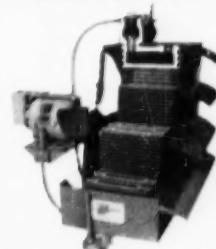
"On the other hand, if this same individual invested directly in common stocks, he would have to pay a 25 per cent capital gains tax on the annual 2 per cent increment realized each year and in addition pay a tax of 50 per cent on his dividend income, less adjustment for the 4 per cent dividend credit and the \$50 exclusion, each year. Accordingly, at the end of the same 30-year period, he would have approximately \$73,500. This sum, invested in a similar annuity, would provide an annual payment of approximately \$7,900 on which there would be no income tax. (\$4,900 would be a return of capital and the personal and other deductions would exhaust the \$3,000 of taxable income.) After taxes, his return would amount to \$7,900 per year, or \$118,500 in 15 years.

"Consequently, the tax sheltered features become obvious. The tax sheltered variable annuity results in a dollar advantage of \$4,600 per year, in the retirement years, or \$69,000 in 15 years.

"The individual who purchases a variable annuity from a life insurance company is, in effect, postponing most of the tax incidences during the 30-year period and thereby has available greater sums for reinvestment. In addition, he is shifting the taxable income from years in which he would pay a 50 per cent tax to years in which he



## GRID CAST IRON Construction ends your Unit Heater maintenance



Get the complete story on GRID Unit Heaters, GRID Blast Heaters and GRID Radiation for industrial plant use. Write for your copy today!



Corrosion in unit heaters—external, from contaminated air... internal, from electrolytic action ends—when your unit heaters are GRID cast iron construction. Here's why—GRID heating sections are made of high-test cast iron... no external corrosion from acid or other fumes present in many plants. All metals in contact with steam are

similar... no electrolytic action internally... no internal corrosion. GRID construction ends your unit heater maintenance problems—because GRID will operate on steam pressures up to 250 P.S.I. ... 450° temperature... no pressure-reducing valves needed. No soldered, brazed, welded or expanded connections... a specially designed threaded nipple provides a leak proof joint (see illustration).

GRID design gives you maximum heating performance because—GRID provides more air changes at lower outlet temperatures... carefully selected motor speeds and fan capacities positively deliver warm, comfortable air in ample volume to floor level... no wasted heat through stratification.

GRID installations save you money as GRID requires no maintenance... is practically self-cleaning (note wide, fin spacing in illustration). GRID provides long service life... units installed in 1929 are still operating. No ordinary unit heater approaches GRID'S record for continuous trouble-free heating service.

## D. J. MURRAY MANUFACTURING CO.

Manufacturers Since 1883 • WAUSAU, WISCONSIN  
REPRESENTATIVES IN ALL PRINCIPAL CITIES

D U N ' S R E V I E W *and*



## TRAINING PROGRAMS PAY OFF No Matter How Small You Are

ALVIN H. BARKOW  
President, H. Barkow Company

A small company can run a successful in-service training program just as well, or better, than a big one. In fact, no matter how small the company, it can ill afford to be without such a program and remain in a sound competitive position. Such programs produce dividends that far outweigh the out-of-pocket costs.

How small is our company? We employ only about 30 men and the plant is so small that the semi-monthly training sessions are held in a washroom. But the seven years that this has been going on have satisfied me that it has helped directly to keep my business operating in the black.

Our program started from necessity. Like most small companies, we had a nucleus of skilled craftsmen but not a good shop supervisor in the lot. Such positions were filled by men whose primary qualifications

were seniority, a thorough knowledge of their trade, and good working habits—but, through no fault of their own, a sad lack of the ability to handle men. Their tendency was to do the job themselves rather than direct, demonstrate, and explain.

With the assistance of Professor Norman Allhiser of the University of Wisconsin's Industrial Management Institute, we moved through the six steps essential in setting up a training program in a small company.

1. We determined our needs based on our own situation and not on text-book maxims or the experiences of other companies.

2. We established our goals, again based on our needs and our priorities.

3. We laid out a program that we could support and maintain.

4. We developed lesson plans related directly to our situation.

5. We conducted the program in an atmosphere of give-and-take.

6. We evaluated the program at regular intervals making changes when necessary to keep the training pertinent and practical.

Our particular problem was to develop leadership and to train supervisors. The results that the training produced were worth all the headaches and arguments that accompanied its introduction to the point where we sometimes felt like junking the whole thing.

While the objective was to train supervisors and develop leadership, there were a number of additional by-products that proved to be a happy result of the training. Besides producing reliable foremen and upgrading skills, we found an increase in production, a lower turnover rate among the men, and the development of team-work among departments that never existed before.

Still other unlooked for advantages that occurred, partly because of the informality in our approach, were the airing of grievances and the making of suggestions for improvements. The suggestions that the training program produced in-

cluded such things as a health and life insurance program, a profit-sharing retirement plan, an automatic fire alarm and prevention system, an improved arrangement of equipment and materials, and a parking lot for employees.

These and other improvements would probably have come without the training program, but it speeded up their development and gave the men a sense of participation.

The final payoff in any program can be measured in terms of the results that directly affect the competitive position of the company. In addition to the feeling of co-operation and loyalty and the improved thinking that we gained, our planned program fitted to the needs of the company has clearly demonstrated its worth in the competitive area.

It has lowered costs, improved the quality of the product, and put labor-management relations on a much higher plane. These are key objectives in to-day's highly competitive economy. To achieve them a planned in-service training program can be useful no matter how small the company.

DESIGNED, ENGINEERED AND CONSTRUCTED BY

# Wigton-Abbott

C O R P O R A T I O N



A new addition being erected by Wigton-Abbott for the Microcast Division of Austenal, Inc. at La Porte, Indiana. The facility will be used in production of investment cast parts for industry.

**Economic Surveys, Reports and Analyses**

•

**Development of New Processes and Equipment Installation**

•

**Industrial Design and Construction and Conversion of Existing Facilities**

Wigton-Abbott Corporation

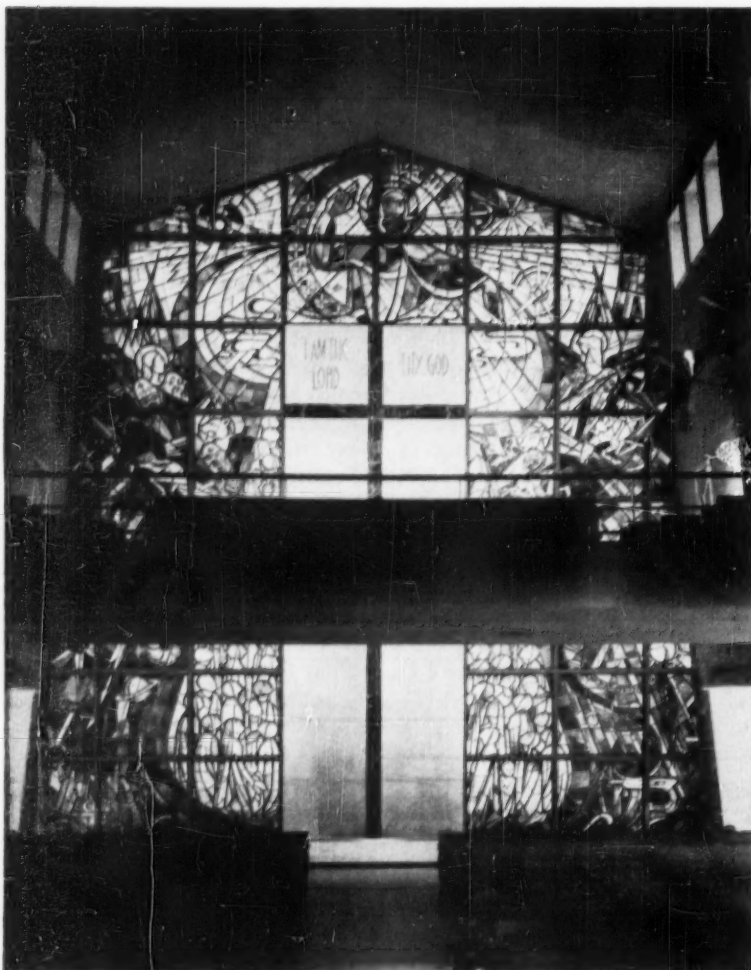
ENGINEERS & CONSTRUCTORS

Main Office  
PLAINFIELD, N. J.





# Only STEEL can do so many jobs so well



The Day Of Judgment is depicted by this magnificent stained glass window in St. Gertrude's Church, Franklin, Illinois. This breath-taking window was designed and made in the United States, and its weight is supported by a network of slim USS steel mullions — further evidence of the versatility of steel, which serves industry, farm, home and church in so many ways so well.



This trade-mark is your guide to quality steel

## UNITED STATES STEEL

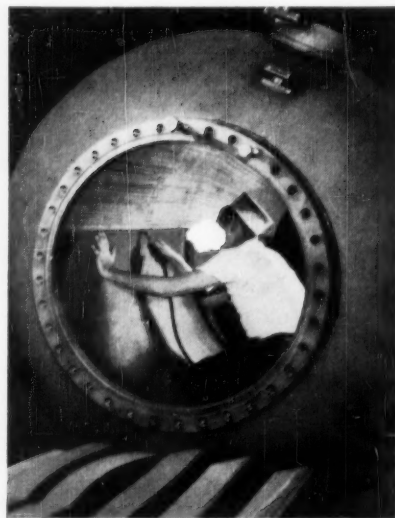
For further information on any product mentioned in this advertisement, write United States Steel, 525 William Penn Place, Pittsburgh, Pa.

AMERICAN BRIDGE • AMERICAN STEEL & WIRE and CYCLONE FENCE • COLUMBIA-GENEVA STEEL • CONSOLIDATED WESTERN STEEL • GERRARD STEEL STRAPPING • NATIONAL TUBE OIL WELL SUPPLY • TENNESSEE COAL & IRON • UNITED STATES STEEL PRODUCTS • UNITED STATES STEEL SUPPLY. Divisions of UNITED STATES STEEL CORPORATION, PITTSBURGH  
UNITED STATES STEEL HOMES, INC. • UNION SUPPLY COMPANY • UNITED STATES STEEL EXPORT COMPANY • UNIVERSAL ATLAS CEMENT COMPANY

SEE The United States Steel Hour. It's a full-hour TV program presented every other week by United States Steel. Consult your local newspaper for time and station.



**Perfect Sun And Light Control.** Designed to stay up all year, this awning can be rolled down to any level for sun protection or rolled up against the house to admit light on cloudy days. These roll-up awnings are made from tough USS Galvanized Steel for sturdiness and long wear. In laboratory tests, the awning was raised and lowered over 20,000 times without failure.



**2 Million Volts** will be generated in this all-steel transformer tank. It is part of an x-ray machine used for industrial inspection. USS steel plates and sheets were used for the important parts.

## CITIES LEARN HOW TO WOO PLANTS

*To sell itself to industry, a community must first sell itself to its own people. Here's how some are keeping old plants, winning new ones.*

**T**HERE ARE two sides to the matter of plant location—the motives that impel an industrial concern to seek a new site, and the welcome that a community extends to a prospective new industry.

A few resident industrialists may deprecate the coming of new plants—the labor market is loose, they are ruling the roost, and they may want no competition. But, generally speaking, most communities will welcome a new plant.

How they welcome it may, however, have a lot to do with how successful they are. Simply wanting it is not enough.

The United States Chamber of Commerce (1615 H Street, Washington, D. C.) published a 26-page booklet (50 cents) earlier this year, in fact, on "Getting and Holding Good Employers." It tells how a community can get along with its current industries as well as how it may attract new ones.

Meanwhile, a number of communities have undertaken on their own a variety of activities designed to show their interest in keeping good industrial citizens or that they are the kind of place a company

might well consider settling down in.

The State of Maine, which has been known mostly for tourists, timber, and seafood in the past, has recently stimulated local community leaders to take a modern approach to the business of soliciting new industry.

Promoting a "do-it-yourself" approach, the State Department of Development of Industry and Commerce last January held a series of eight clinics in central locations, to teach town leaders how to put their best foot forward. Interest was so great that Commissioner Louis Shapel was compelled to arrange day-long "courses" in the subject for those who wanted more.

Somewhere between 150 and 200 communities have set up community-evaluation committees as a result, to study sites, water, raw materials, personnel and wages, and similar industrial requirements. Their best resource, they have found, is the personnel potential. A mail survey of technical personnel who were natives of Maine but working out of state, showed a great number eager to return to

their home towns and state if appropriate employment were available. As a result, the selling pitch of the Maine communities has been on a high level to date—good people to work for you, desirable communities to work in, self-respecting communities to deal with.

Turning to a community that seeks to be good friends with an industry already established in its midst, there is the example of Miami, Okla., whose Chamber of Commerce recently surprised (and delighted) The Eagle-Picher Company, by asking if it would object to an "Eagle-Picher Appreciation Week."

For a week, during August, Miami merchants talked up the company in their spot radio announcements and in newspaper advertisements. An outdoor exhibit of the equipment Eagle-Picher uses in its Mining and Smelting Division in and around Miami attracted thousands; and so did a C. of C.-sponsored indoor exhibit of the products and processes of the company's other divisions in other states.

Store windows carried displays related to the occasion, business



When the city of Miami, Okla., decided to show its appreciation to Eagle-Picher Co., it set up this display.



Outdoor show was of equipment used near Miami, but indoor show was of products of distant subsidiaries.

**Why Jim Davis Picked RED GIANT HAND LIFT TRUCKS**

**BOY! THESE RED GIANTS SURE HANDLE WELL!**

**I'LL SAY! AND THESE TIMKEN ROLLER BEARINGS ARE SEALED AND LUBRICATED FOR LIFE! AND THE HANDLE CAN'T KICK WHEN LIFTING OR LOWERING!**

**AND LOOK AT THIS RELEASE CHECK! IT'S A REAL SHOCK ABSORBING TO PROTECT EVEN THE MOST FRAGILE CARGO! I CHECKED THEM ALL, AND RED GIANT HAS THEM ALL BEATEN!**

**WRITE IN FOR OUR FREE COMPLETE TRUCK INDEX OF RED GIANT MODELS IN OVER 600 COMBINATIONS OF SIZES AND CAPACITIES!**

**REVOLVATOR CO.**  
8742 TONNELLE AVE., NORTH BERGEN, N. J.

**New! Wet and Dry Vacuum WITH TRANSFERABLE HEAD fits any 55 gallon drum**



**PORTABLE!** 4-wheel dolly available for easy moving.  
**ECONOMICAL!** Fits any 55 gallon drum!  
**LIGHTWEIGHT!** Transferable motor unit is easily lifted from one drum to another.



**HILD FLOOR MACHINE COMPANY**  
740 W. WASHINGTON BLVD., CHICAGO, ILL.  
Please send me FREE details on the Wet and Dry Vacuum Cleaner with transferable vacuum head.

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

## We'd like to send you this Safety Belt... **FREE!**

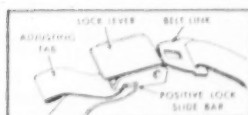


If you've been thinking of installing safety belts in your company vehicles, we'd like to make this suggestion. Make your own tests on all the belts you can. Test their strength, ease of operation, and check price in relation to quality. We'd like to send you a SAF-T-LOK Safety Belt free for this purpose. Belt will be shipped on memo billing for test purposes. Billing will be cancelled on receipt of order for additional belts; or upon return of test belt to us within 90 days.

Many firms have made this comparison and have bought our belt. We think you will too. Independent laboratory tests prove SAF-T-LOK Safety Belts surpass CAA and SAE requirements by at least 50%. SAF-T-LOK is one of the few safety belt manufacturers granted full product liability coverage.

We'd like to call your attention to the fact that The SAF-T-LOK Belt is strong *Throughout*. The webbing, the buckle, the installation parts are all designed for maximum strength. There is no weak link. Notice, too, the ease of operation of the patented buckle.

### TEST THIS SPLIT-SECOND RELEASE



For free belt write over the signature of company officer or safety director to:

**SAF-T-LOK MFG. CO., BOX 2625, ST. LOUIS 16, MO.**

A positive metal-on-metal locking device that can't slip. Just insert the belt link into the buckle and it snaps tight. Just a flip of the lock-lever and the belt is instantly released. No other belt can be installed, released, or adjusted so quickly.



## Self-Dumping Hopper increases plant efficiency

Handling costs have been cut sharply and plant efficiency has been increased for Henning Brothers & Smith, metals refiners, Brooklyn, N. Y. Bulk materials handling is now standardized by using nine Roura Self-Dumping Hoppers—doing several different jobs throughout their plant. These maintenance-free Hoppers, attached in 3 seconds to any standard lift truck; dump aluminum

scrap into furnaces, move 400-600<sup>3</sup> zinc ingots to a storage area, and are loaded with hot brass ingots from a conveyor belt. In each job, the entire operation is handled by one man. He just flips the latch and the Hopper dumps itself, rights itself, and locks itself.

Why not let Roura Self-Dumping Hoppers cut costs and save time for you, handling hot or cold, wet or dry bulky materials.

**ROURA**  
Self-Dumping  
**HOPPER**



WANT MORE DETAILS? Attach this coupon to your letterhead and mail to  
**ROURA IRON WORKS, INC.**  
1404 Woodland Ave., Detroit, Michigan

men and clerks wore lapel ribbons heralding the event. A banquet attended by 250 business men and government officials from Oklahoma, Kansas, and Missouri capped the celebration—and gave Eagle-Picher President T. Spencer Shore an opportunity to make some points that had no doubt already occurred to the organizers:

"We of the Eagle-Picher Company appreciate being appreciated. One of the important facts of life is that people like to be appreciated, and a company is no exception. For, after all, a company is people.

"In their urge to get *new* companies and industries, states and municipalities seldom show appreciation for those who are already there. We're glad that the people of Miami are different. You obviously realize that you need industrial *expansion*, rather than just new industry. And industrial expansion often comes on a very large scale from established companies if they are given recognition, help, encouragement, and co-operation."

### How Oskaloosa Learned

The Miami, Okla., Chamber of Commerce can give the U. S. Chamber good leads and a good case study for at least the second phase of its booklet, "Holding Good Employers."

A community that learned the hard way—but *learned*—is Oskaloosa, Iowa. Oskaloosa was dozing in a bed of self-satisfaction, until, it learned recently that the American Chain and Cable Company had considered it for a new plant, but had passed it up. Some of the civic fathers asked why.

The answer, it appeared, was that a company survey had showed that Oskaloosans themselves didn't think much of their town.

Instead of angrily rejecting the accusation, the town leaders decided to find out if it were true. They conducted their own survey, under direction of Ralph Shelton, Chamber of Commerce Secretary, and sure enough it turned out that Oskaloosans didn't like Oskaloosa.

Having had the courage to find out the facts, the community as courageously faced them. It was decided to sell Oskaloosa to Oskaloosans before selling it to others.

A Special Industrial Study Committee, jointly sponsored by the Chamber of Commerce and the

Community Council's industrial group, proposed a program that is now under way, and apparently with considerable effect. The committee's proposals, in part:

In the press, editorial comment; weekly box scores on new cars registered, building permits, new businesses, city projects; factual material on how to contact and deal with industrial prospects; stories comparing community as it is now with what it was ten, twenty and 30 years ago; stories on existing industries' contributions; man-on-the-street interviews.

On radio: panel programs on community's problem; radio spots building community pride; pushing of slogan, "Oskaloosa's on the Go."

Interviews, open to press and radio, with utility company on gas and electric power available; with the water department on water supply; with superintendent of schools on present programs and plans for future training when population increases; with contractors on availability of new buildings and houses; with the employment office on quantity and quality of labor supply; with transportation representatives.

Meetings: coffee sessions with dozen leading plant managers, to solicit ideas and promote campaign; with service organization personnel; with city employees including police, firemen, street crews, with high school seniors; with industrial employees; with salesmen, especially those with out-of-town territories; with retirees.

Enlistment of all members of industry, clubs, professional groups, churches, unions, present industry officials.

Store window posters, bumper stickers, prize contest for suggestions, publicity for outstanding jobs done by individuals, posting of potential industrial sites, a 30-minute film on Oskaloosa's advantages, repetition of attitude survey.

### Building Town Pride

Most notable fact about the program is that, with few exceptions, its various elements are directed not at prospective new industries but at present citizens. When Oskaloosans become proud of Oskaloosa, half the battle—or more—will be won, Shelton believes.

There is reason to believe he is



right. St. Louis, which was rapidly becoming one of the nation's dowager cities a decade ago—and losing suitors as rapidly as a dowager—began a few years ago a program of civic improvement. It started with physical things like slum elimination and civic center beautification. To-day, according to Mayor Raymond Tucker, the effort has resulted not only in a new civic pride, but in the establishment of many new industries, attracted to people who believe in themselves.

Some readers of the special plant location feature, "You've Got to Grow—But Where?" in the April 1956 issue of DUN'S REVIEW AND MODERN INDUSTRY have asked how their towns can get in on the plant-solicitation act. These examples may show them how.

### Double mileage from plant emergency squad

Many a plant emergency squad goes rusty, after a bright start, because it gets so little opportunity to exercise its skills. But not the Emergency Rescue Squad of Ansul Chemical Company in Marinette, Wisc.

The Ansul squad keeps in trim—and brings satisfaction to its members and good-will to its employers—because it has made its services available to the 14,000 people of Marinette and the 12,000 of its sister city, Menominee, Mich.

When Safety Director Joseph Banach organized the squad sev-

eral years ago, its eight members took Red Cross training for 21 weeks, twice a week, for two and three-hour periods. Then it got itself a week's service with a big-city fire department rescue squad in Milwaukee.

But emergencies are infrequent in the Ansul plant and the squad became restless. Its equipment, supplied by the company, was seldom used. So Banach suggested, and the company agreed, that the squad might offer its services to the two communities. Municipal officials and doctors agreed, although with slight enthusiasm, and the squad was listed among emergency numbers in the phone book.

For three years more, calls were infrequent. Then one night a major traffic accident gave it its first good workout. Official, professional, and newspaper praise were heaped on it. Suddenly it was accepted as a full-fledged municipal service.

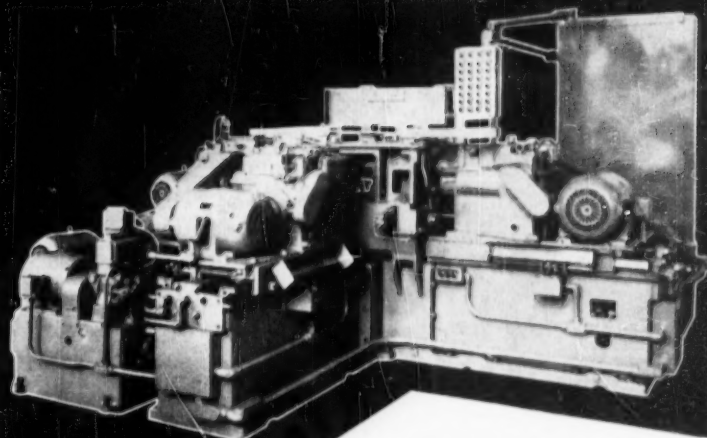
Members are full time employees of Ansul; they receive no pay for squad work. But they love it, and the town likes them and Ansul as a result. To-day there are 26 members, available around the clock, and its services are expanding. More than 1,800 people have received first aid training from its members.

And not least of all, Ansul has an emergency squad kept up to snuff for the emergency that has never occurred yet, but some day just might.



Equipped to administer oxygen in emergencies and to perform numerous other services, Ansul Chemical Company squad wins new friends for its plant.

## FOR GREATER . . . PRODUCTION • EFFICIENCY • SAVINGS



Model MR138 four-way, horizontal machine for boring, counter-boring, facing, chamfering and drilling tractor main frame housings.

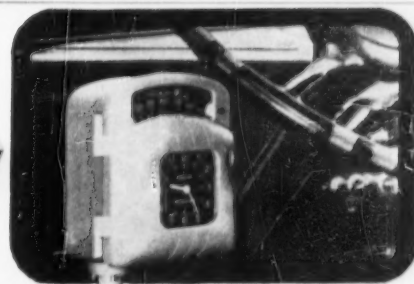
Use an individually designed "Hole-Hog" Machine Tool for such jobs as:

- Multi-Spindle Boring
- Single and Multi-Spindle Honing
- Straight Line Multi-Drilling
- Adjustable Spindle Drilling
- Vertical and Way-Type Fixed Center Drilling, Boring and Tapping
- Special Multiple Operation Machine Tools

Over 50 years of Machine Tool Engineering experience is at your service. Tell us your particular problem. Representatives in principal cities.



**MOLINE TOOL COMPANY**  
100 20TH STREET  
MOLINE, ILLINOIS



**Tachographs** can lower repair costs, increase operation efficiency, and improve your safety record

Regardless of the type of vehicle you operate, a Tachograph will economically measure the complete performance of both trucks and drivers.

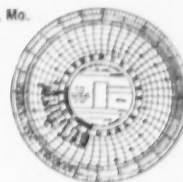
The Tachograph is an accurate recording speedometer that mounts easily on the dashboard. From the wax-coated chart that is inserted *inside* the tamper-proof aluminum case, you get a complete and permanent record of the entire trip: When truck started—Stopped—Idling time—Distance between stops. Easy-to-

read illuminated dials also show time of day, m.p.h. and total mileage. Tachograph models which indicate and record engine r.p.m. are also available. There's the added safety advantage of the red warning light that signals the driver whenever your company's predetermined speed limit is exceeded.

Learn the full facts about Tachographs. The coupon below brings a copy of Bulletin SU-3—it tells the *whole* Tachograph story.

**Wagner Electric Corporation** 6439 Plymouth Ave., St. Louis 14, Mo.  
Please send a copy of Bulletin SU-3.

Name and Position \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_  
We operate \_\_\_\_\_ Vehicles



**get off at any**

**key industrial market...**

...along the main line of one of our major railroads or airlines. Call on the influential people in the business community—the key executives in key companies in that key industrial market. The chances are that *nine out of ten* of the people you talk to will be Dun's Review and Modern Industry subscribers.

Take a heavily industrialized city like Erie, Pennsylvania. Twenty-nine concerns, each worth a million dollars or more, with combined annual sales of more than three hundred million dollars, provide the big payrolls, do the big industrial buying in the community. Key executives in 26 of those key manufacturing and wholesaling concerns

are subscribers to Dun's Review and Modern Industry.

That's the kind of concentrated management audience Dun's Review and Modern Industry enjoys in key market after key market, in community after community across the country. And of Dun's Review and Modern Industry's more than 100,000 paid subscribers, 53,000 are presidents of their companies. Another 41,000 are owners, partners, and corporate officers other than president.

If you have an industrial sales story for management, shouldn't your advertising be in Dun's Review and Modern Industry?

Erie, Pennsylvania



**YOU SELL MORE WHEN YOU SELL MANAGEMENT FIRST**

**Dun's Review and Modern Industry**

99 Church Street, New York 8, N. Y.

D U N ' S   R E V I E W   and

# MANUFACTURER PLAYS "FINDERS KEEPERS"

*Round-up of assorted market predictions; a new sales spur; latest figures on salesmen's pay; and more.*

## NEW INDUSTRIAL MARKET GUIDE READY

In response to many requests from readers, the article on the new U.S. Census of Manufactures in the August 1956 issue is now available in an eight-page reprint, including the large map pinpointing key markets.

Final Census figures have been substituted for the estimates which were used in the August issue. Copies of the reprint, "Where to Sell in the New Industrial Markets," are available at 25 cents each from:

Readers Service Department  
Dun's Review and Modern Industry  
99 Church Street  
New York 8, N.Y.

You may send cash for one to four copies; for five or more, we can bill you.

SOMEPLACE in the New York area last month there was \$100,000 just waiting around to be found. Where was it?

The Englander Company, a mattress manufacturer knew and was dropping hints. The hints were in the form of clues printed on cards placed under mattresses in retail stores.

Contests like this are spreading across the nation. This is the second one in New York within a short time, while two are now going on in Chicago, and one in Minneapolis. The immediate purpose of this giveaway contest is to pull traffic into retail stores, but the Englander Company has a more important long-range goal on its mind: to create a strong public awareness of its brand name.

This goal should be realizable for the publicity payoff in New York

has been quite surprising. Two disc jockeys spent considerable time telling their listeners about the contest while one of them actually hired a private detective to help his listeners decipher the clues and track down the \$100,000 certificate.

An earlier contest backfired on the sponsor when thousands of treasure hunters stormed Grand Central Station. Some of the crowd sought to dismantle the information booth clock to see if the money was hidden behind the face. Public libraries complained as crowds tore through books looking for the money.

Consequently, the Englander Company has taken special precautions to prevent such trouble. Spot radio announcements broadcast such negative clues as:

"If you don't want to be left in the lurch

Don't look for the money in Trinity Church."

## Looking ahead

Some business men are as addicted to predictions as they are to profits. Here are some glimpses of the future as seen by executives in recent weeks:

- The market for major home appliances will swell by 41 per cent by 1960, if the prediction of Harold Bull, vice-president of the Borg-Warner Corporation, comes true. He looks for a rise of 10 per cent in the number of dealers, although most people in the industry anticipate a thinning of the ranks from intense competition.

- An even larger increase is coming in the market for home lighting fixtures, according to General Electric's Large Lamp Department Manager H. L. Weise. He sees a five-fold increase in the next five years if retailers will take advantage of manufacturer-sponsored promotions.

- Looking even further ahead, Arthur S. Genet, President of the Greyhound Corporation, predicts a doubling of the intercity bus business by 1966. Contributing to this happy state of affairs for Greyhound will be a virtual abandonment of passenger business by the railroads, he adds. He envisions that the number of communities—50,000 at the present time—which are entirely dependent on bus transportation will also double, and that buses themselves will become "picture windows on wheels."

- Big changes are coming in consumer markets during the next



**"WHY NATIONAL CARBON  
CHOSE IOWA  
FOR ITS EVEREADY PLANT"**

*A. S. Johnson*

A. S. Johnson, President, National Carbon Company  
A Division of Union Carbide and Carbon Corporation

"After a thorough study of 21 cities in four states, National Carbon Co. chose Red Oak, Iowa, as the site of its new Eveready brand batteries plant.

"Among the factors that determined our choice was the availability of industrious, quick-to-learn people. Iowa employees demonstrated strong basic intelligence and an ability to understand quickly various manufacturing steps. Maximum production of 50 battery types was achieved in minimum time.

"A spirit of friendly cooperation between the city and the plant, and between employees in the plant has resulted in high productivity, excellent product quality and a fine safety record.

"The majority of supervisory and staff positions are now filled with locally hired people, and many Iowans have gone on to important positions at other National Carbon locations."

The high intelligence and mechanical ability Mr. Johnson mentions are accepted facts by Iowa industry. The state has a fine educational system including vocational training. And much of Iowa's labor supply comes from its farms and has worked with machinery from childhood. If you have a move in mind, just write the Iowa Development Commission for more information on Iowa's labor force and many available plant sites.

Address your inquiry to —



346 Jewett Building • Des Moines 9, Iowa





M. W. CLEMENT

Portrait by Fabian Bachrach

## "Out of years of Prideful Association..."

—with the Payroll Savings Plan for the purchase of "E" Bonds has come the realization that the start in life's savings has come to millions of American men and women through "E" Bonds.

"Out of association with the Advisory Committee has come the understanding of how interested most chief executives are in the well-being of their employees.

"It is almost inevitable that when the chief executive

has this interest, employees have an easy opportunity to buy "E" Bonds through the Payroll Savings Plan."

**M. W. CLEMENT, Chairman**  
*Treasury's Payroll Savings Advisory Committee*

Mr. Clement's interest in employee security and Payroll Savings dates back to his association with the Pennsylvania Railroad. As long-time Chairman of the Treasury's Payroll Savings Advisory Committee, Mr. Clement gives freely of his time and counsel to the expansion of the Payroll Savings Plan throughout industry and business.

Your State Director will help you build a Payroll Savings Plan *you* can be proud of. Write to Savings Bond Division, U.S. Treasury Department, Washington 25.



## CANCER LIFE-LINE

In factories, plants and offices across the nation, the line is busy. Through films, pamphlets, posters, exhibits and lectures, the life-line of cancer education is reaching more and more men and women in business and industry.

All of us are concerned with the major threat which cancer poses. Today, thousands of lives are being saved each year, but many more would be saved if people went to their doctors *in time*. This, and many other facts of life about cancer, are part of the education program which the American Cancer Society offers you in your plant or factory. For additional information, call the American Cancer Society office nearest you, or write to "Cancer" in care of your local Post Office.



decade according to the president of Masters, Inc., a chain of discount houses in the East. Stephen Masters looks for a severe change in the operations of department stores to meet the competition of the household goods discount house, which is fast developing into a non-food supermarket. He foresees a complete streamlining of department stores and the dropping of many frills and services in order to get selling costs down close to the discount house level, which is only about one-third of department stores.

• The final prediction is one which should have sweeping effects throughout the country. P. S. Lindemeyer of the National Broom Manufacturers and Allied Industries Association predicts a rise in the price of brooms.

### Sum of the parts

*Take up thy chair and sell.* This is the advice given to salesmen by the Cramer Posture Chair Company of Kansas City, Mo. It's done by placing the component parts of a secretarial posture chair in a carrying case, 17 x 18 x 11 inches, which the salesman takes along with him on his calls.

While he is assembling the chair in a prospect's office, his sales spiel details the advantages of the chair. After the chair is assembled, it can be left for the secretary to try out on her own.

### New sales spur

For years now, manufacturers have offered their dealers, particularly in the consumer goods field, such sales incentives as trips to Bermuda or even Hawaii. But some manufacturers, the Amana Refrigeration Company of Amana, Iowa for one, find that their dealers don't have time for such trips and that merchandise prizes are even less enticing for they can find much of it on their own shelves.

As a solution, Amana announced last month a new sales incentive—mutual fund shares—which the company says is the first one of its kind. Thousands of appliance dealers will have the opportunity to win 20,000 shares in the United Science Fund.

Last month, Keith Funston, president of The New York Stock Exchange, called for wider use of stocks as incentives.

### Selling by impulse

The importance of impulse buying and self-service is reflected even in the selling of home furnace filters.

The American Air Filter Company of Louisville, Ky., has produced a new display unit which doubles as a shipping carton.



The company expects to gain entrée to new fields of distribution such as supermarkets and department stores with the help of the new display.

### What salesmen earn

A new survey, the first of its kind to be conducted by the American Management Association, throws considerable light on an area about which there is much misunderstanding—salesmen's compensation. It is the most comprehensive study since the one done by Professor Harry S. Tosdal of Harvard three years ago which was published by the Harvard Graduate School of Business Administration.

Here are some of the findings of the new survey by the AMA:

- Salesmen employed by manufacturers increased their compensation by almost 4 per cent last year.
- The earnings of more than three-fourths of the salesmen fell in the broad range between \$5,000 and \$15,000.
- In 77 per cent of the 200 companies surveyed, salesmen received at least part of their pay in bonuses and commissions.
- In 36 per cent, a combination of salary and commissions is used.
- In 41 per cent, salesmen are on commissions alone.

C 72	62	Marks, Schweizer & Neri	Mort 2	3
52	21	Marvel Nutter David	Hypiblog	C's 1
55	41	Massey Greenbury B	Singer	J 4
15	11	Megee L Nelson	GCenter	18 1/2
28	71	Melson Fertilizer Co Inc		2
26	31	Moriki Mrs Marie	Jlyce	18 1/2
53	31	Morton Stores		18 1/2
54	22	Morton's		
15	11	Murray A J		
C 56	21	Nancy Lee Sho		
58	12	Newgard Hen		
54	22	Olson Mrs O		
50	21	Orrison Allen		
42	13	Orrison Bros		
57	41	Proper David		
25	41	Pittard Arthur		
17	31	Pittard G Roy		
59	13	Pittard Lester		
56	63	Puzzulo Antho		
52	41	Purnell Harold		
25	31	Pusey W E &		
35	21	Pusey-Townsend		
16	11	Roach Walter		

## More Than a Book A SALES PLAN

Pre-sales-call planning made easy with Dun & Bradstreet State Sales Guides.

Thousands of successful salesmen today use these sales guides to

- select prime markets
- classify prospects
- concentrate sales efforts
- locate new business
- protect order approval

Wire, write or phone the Dun & Bradstreet office which is nearest to you today for information on how your salesmen can get the

### STATE SALES GUIDES

FOR DUN & BRADSTREET SUBSCRIBERS EXCLUSIVELY

for their territories—or fill in and mail the coupon below.

**Dun & Bradstreet, Inc.**  
Dept. 11  
99 Church Street  
New York 8, New York

Please send me your booklet, "How to Get the Most Out of Your State Sales Guide."

We're subscribers to Dun & Bradstreet service. Send us State Editions for the following states

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

and bill us later.

INDIVIDUAL  
SIGNING \_\_\_\_\_  
COMPANY \_\_\_\_\_  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_  
STATE \_\_\_\_\_



## FAST SOO LINE FREIGHT SERVICE

**GEO. T. BERGREN**  
Industrial & Real Estate Commissioner  
First National-Soo Line Building  
Minneapolis 2, Minn. Federal 2-1261



Rocks picked up with automatic tongs—tied to any height from cab operated bridge crane.



P-S racks are design-adopted for simple selection using overhead crane.



Stock storage and selection using automatic hook twin tongs.



P-S racks, in addition to saving floor space, permit storage of more stock tonnage.

**YOUR WAREHOUSE CAN LOOK  
LIKE  
THIS...**



Item No.  
C-497

CONSUME

## PORTABLE *Heavy Duty* BAR RACKS

Store pipe, tubing, bar, sheet or other stock . . . selection and checking of stock no problem . . . each rack readily accessible . . . flush bottom insures sturdy, rigid, safe tying—rack upon rack . . . safety stacking pockets on rack corners . . . double thick lifting lugs, welded to wrap around channels . . . Engineered-built to specifications for any size load or capacities.

DESIGNED AND MANUFACTURED BY

**Palmer Shile Co.**  
16054 FULLERTON AVE., DETROIT 27, MI

BOSTON, Mass., CO 6-0570 • BURLINGAME, Calif., DI 2-0823 • CHICAGO, Ill., AUstin 7-8599 • CLEVELAND, Ohio, SU 1-3235 • DENVER, Colo., AI 5-3984 • FLINT, Mich., CE 8-6881 • FORT WAYNE, Ind., KE 5408  
INDIANAPOLIS, Ind., ME 5-2587 • LOS ANGELES, Calif., RA 3-3733  
ST. LOUIS, Mo., PR 1-1474 • WHITE PLAINS, N. Y., White Plains 6-1354

ACCO PRODUCTS, INC.	74	GENERAL BINDING CORP.	79-80
LaPorte & Austin, Inc.		Irving J. Rosenbloom Advertising Agency	
ACME VISIBLE RECORDS, INC.	106	GENERAL BOX COMPANY	17
E. H. Brown Advertising Agency		The Buchen Company	
ALAN WOOD STEEL COMPANY	5	GLICKMAN CORPORATION	13
Doremus-Eshleman Company		Pace Advertising Agency, Inc.	
ALLIED RESEARCH PRODUCTS, INC.	123	GLOBE-WERNICKE COMPANY	77
Emery Advertising Corporation		Strauchen & McKim	
ALLI STEEL AND CONVEYORS, INC.	18-19	GR PRODUCTS INC.	91, 94, 102
Holden, Chasno, LaRue, Inc.		Norman-Navan, Inc.	
ALLIS-CHALMERS	8	GRAPHIC SYSTEMS	94
Compton Advertising Inc.		Diener & Dorskind, Inc.	
AMERICAN CREDIT INDEMNITY		GRAY MANUFACTURING COMPANY,	
COMPANY	364	THE	62-63
VanSant, Dugdale & Company		French & Preston, Inc.	
AMERICAN PULLMAX COMPANY, INC.	21		
Grimm & Graigle, Inc.			
AMERICAN TELEPHONE & TELEGRAPH			
CO.	148		
N. W. Ayer & Son, Inc.		HAMILTON MFG. CORP.	93

<b>B</b>	<b>BAKELITE COMPANY, DIVISION OF</b>	
	<b>UNION CARBIDE AND CARBON</b>	
	<b>CORPORATION</b>	27, 119
	<b>J. M. Mathes, Inc.</b>	
	<b>BALTIMORE &amp; OHIO RAILROAD</b>	125
	<b>The Richard A. Foley Advertising Agency,</b>	
	<b>Inc.</b>	
	<b>BENEFICIAL FINANCE</b>	90
	<b>Albert Frank Guenther Law</b>	
	<b>BIG JOE MANUFACTURING COMPANY</b>	7
	<b>Reincke, Meyer &amp; Finn, Inc.</b>	
	<b>BORG-WARNER CORPORATION</b>	28
	<b>Rogers &amp; Smith, Advertising</b>	
	<b>BUER ELIOTT &amp; CO. MFG. CO.</b>	122
	<b>Grimm, Craige Inc.</b>	
	<b>BROWNE-MORSE CO.</b>	104
	<b>Don Harding &amp; Associates</b>	
	<b>BRUNING, CHARLES, COMPANY, INC.</b>	99
	<b>H. W. Kaster &amp; Sons Advertising Company</b>	
	<b>BURKHARDT ASSOCIATION</b>	78
	<b>Campbell-Ewald Company</b>	
	<b>BUTLER MANUFACTURING CO.</b>	116
	<b>Aubrey, Finlay, Marley &amp; Hodgson, Inc.</b>	

CALCULAGRAPH CO.	84
Read, Decker and Stocks	
CAMBRIDGE WIRE CLOTH CO., THE	131
Emery Advertising Corporation	
CHASE MANHATTAN BANK, THE	129
Albert Frank-Guenther Law, Inc.	
CHESAPEAKE AND OHIO RAILWAY	3
Robert Conahy, Inc.	
CHICAGO HARDWARE FOUNDRY COMPANY	104
Wilson Advertising Service	
CITY BANK FARMERS TRUST COMPANY	134
Kennedy Sinclair, Inc.	
COLUMBIA RIBBON & CARBON MFG. CO., INC.	7
E. M. Freydstadt Associates, Inc.	
COMMERCIAL CONTROLS CORP.	98
Hutchins Advertising Company, Inc.	
COMMERCIAL CREDIT COMPANY	26
VanSant, Durdale & Company, Inc.	
CUTLER HAMMER, INC.	37
Kirkgasser-Drew	

DE JUR AMSCO CORP.	68
Friend-Reiss Advertising	
DENISON ENGINEERING COMPANY,	
THE	6
The Griswold-Eshleman Co.	
DETECTO SCALES, INC.	127
J. M. Lessinger & Associates	
DICK, A. B. COMPANY	64
Fuller & Smith & Ross, Inc.	
DICTAPHONE CORPORATION	86
Young & Rubicam, Inc.	
DICTIONOGRAPH PRODUCTS INC.	95
Atherton Advertising Agency	
DITTO, INCORPORATED	93
Henri, Hurst & McDonald, Inc.	
DRAKE, STARTSMAN, SHEAHAN AND	
BARCLAY	130
Marsteller, Rickard, Gebhardt and Reed, Inc.	

EASTMAN KODAK COMPANY (VERIFAX) .....	6
J. Walter Thompson Company .....	
ECONOMY ENGINEERING CO. ....	129
Kreicker & Meloni, Inc. ....	
ELGIN NATIONAL WATCH COMPANY, ORDINANCE DIVISION .....	Cover II
Waldie and Briggs Inc. ....	
EXACT WEIGHT SCALE COMPANY. ....	32
Byer & Bowman .....	
EXECUTONE, INC. ....	83
The Joseph Katz Agency	

**F**AULTLESS CASTER CORPORATION.... 4  
 Perrin-Paus Company  
 FEDERAL TELEPHONE AND RADIO  
 COMPANY, DIVISION OF IT&T.....112  
 J. M. Mathes, Inc.  
 FELT & TARRANT MANUFACTURING  
 Co. ....90, 91  
 N. W. Ayer & Son, Inc.

GEMAR ASSOCIATES.....	13
Troland, Inc.	
GENERAL AMERICAN TRANSPORTA- TION CORPORATION, PLASTICS DIVISION.....	33
Weiss and Geller, Inc.	

GENERAL BINDING CORP.	79-80
Irvine J. Rosenblum Advertising Agency	
GENERAL BOX COMPANY	17
The Buchen Company	
GLICKMAN CORPORATION	13
Pace Advertising Agency, Inc.	
GLOBE-WERNICKE COMPANY	77
Strauchen & McKim	
GR PRODUCTS INC.	91, 94, 102
Norman-Navan, Inc.	
GRAPHIC SYSTEMS	94
Dreyer & Dorskind, Inc.	
GRAY MANUFACTURING COMPANY, THE	62-63
French & Preston, Inc.	

<b>HAMILTON MFG. CORP.</b>	92
Caldwell, Larkin & Sidener-Van Riper	
<b>HAMMOND, C. S., &amp; CO.</b>	104
Tveter, Inc.	
<b>HANSEN, A. L., MFG. CO.</b>	117
J. M. Haggard, Advertising	
<b>HEARNE BROTHERS</b>	132
Schippers Associates	
<b>HEINZ COMPANY, THE</b>	81
Molson-Greene-Seymour, Inc.	
<b>HERTZ TRUCK RENTAL SYSTEM</b>	Cover III
Cappbell-Ewald Company	
<b>HILD FLOOR MACHINE CO.</b>	139
Henri, Hurst & McDonald, Inc.	
<b>HOWELL ELECTRIC MOTORS COMPANY</b>	15
The Jaqua Company	

INDIANA DEPARTMENT OF COMMERCE	29
Mark Gross and Associates	
INTERNATIONAL BUSINESS MACHINES CORPORATION	97
Benton & Bowles, Inc.	
INTERNATIONAL NICKEL COMPANY, INC., THE	128
Marshall & Pratt Co., Inc.	
IOWA DEVELOPMENT COMMISSION	143
W. D. Lyon Company	
IRONS & RUSSELL COMPANY	117
Knight and Gilbert, Inc.	

KELLEY, RUSSELL, OFFICE SERVICE....	94
Holden, Chapin, LaRue, Inc.	
KULJIAN CORPORATION, THE.....	20
The Roland G. E. Ullman Organization, Inc.	

**LOCKWOOD-GREENE ENGINEERS, INC.** 118  
The House of J. Hayden Twiss  
**LONG BEACH, CALIFORNIA, PORT**..... 147  
Patch & Curtis Advertising Agency, Inc.  
**LOR-EL COMPANY**..... 50  
von der Horst Agency, Ltd.

MAGLINE, INC.	13, 130
Royst and Company	
MAHON, R. C., COMPANY, THE	12
Anderson Inc.	
MANIFOLD SUPPLIES CO.	91
Richard & Gunther, Inc.	
MARSHALL & ILSLEY BANK	125
Barnes Advertising Agency, Inc.	
MATHEWS CONVEYOR COMPANY	9
Meek and Thomas, Inc.	
MCBEE COMPANY, THE	56
C. J. LaRoche and Company, Inc.	
MILWAUKEE DUSTLESS BRUSH CO.	14
Al Hei Advertising Agency, Inc.	
MICROMATIC HONE CORPORATION	54, 55
Gray & Kilgore, Inc.	
MINNESOTA MINING & MANU- FACTURING COMPANY	103
Ruthrauff & Ryan, Inc.	
MISSOURI PACIFIC LINES	16
D Arcy Advertising Company	
MOLINE TOOL CO.	141
Royst Idealvill Inc.	
MONROE CALCULATING MACHINE COMPANY, INC.	105
Charles W. Hoyt Company, Inc.	
MONSANTO CHEMICAL COMPANY, PLASTICS DIVISION	55
Needham, Louis and Brorby, Inc.	
MOORE BUSINESS FORMS, INC.	108-109
N. W. Ayer and Son, Inc.	
MOSLER & BARKHART, THE	85, 102
Sturckton, West, Burkhardt, Inc.	
MURRAY, D. J., MFG. CO.	135
R. C. Breth Inc.	

NATIONAL CASH REGISTER COMPANY.	100
McCann-Erickson, Inc.	
NATIONAL TRUCK LEASING SYSTEM	33
W. S. Kurland Advertising	
NEINHAU PAPER COMPANY	72
Bruner-Kuhn Advertising Co.	
NEW YORK STATE DEPARTMENT OF COMMERCE	130
Kelly, Nason, Inc.	
NIAGARA MOHAWK POWER COR- PORATION	38
Batten, Barton, Durstine & Osborn, Inc.	
NIAGARA THERAPY MANUFACTURING CORP.	Cover IV
W. S. Walker Advertising, Inc.	
NICKEL PLATE ROAD	136
Fuller & Smith & Ross Inc.	



<b>OLYMPIC LUGGAGE CORP.</b> Sykes Advertising, Inc.	14	<b>STROMBERG-CARLSON COMPANY,</b> DIVISION OF GENERAL DYNAMICS CORP.	76
<b>OMEGA</b> Lewin, Williams & Saylor, Inc.	25	Charles L. Rumrill & Co., Inc.	
<b>OXFORD FILING SUPPLY CO., INC.</b> Joseph Reiss Associates	74	<b>T-EL-A-STORY, INC.</b> Warren & Litzenberg	130
<b>OZALID DIVISION, GENERAL ANILINE &amp; FILM CORPORATION</b> Benton & Bowles, Inc.	111	<b>TIMES FACSIMILE CORPORATION</b> STENAFAX DIVISION	112
		Thomas & Delehanty, Inc.	
		<b>TODD COMPANY, INC.</b> The Merrill Anderson Company, Inc.	65
<b>PALMER-SHILE CO.</b> Alfred B. Caldwell, Inc.	146	<b>UNDERWOOD CORPORATION</b> William Esty Company, Inc.	66
<b>PFÄELZER BROTHERS, INC.</b> Slauf Advertising Agency	124	<b>UNION PACIFIC RAILROAD</b> The Caples Company	135
<b>PITNEY-BOWES, INC.</b> L. E. McGivens & Co., Inc.	61, 82, 104	<b>UNION STEEL PRODUCTS CO.</b> Rumsey & Associates	124
<b>POTTER &amp; BRUMFIELD, SUBSIDIARY OF AMERICAN MACHINE AND FOUNDRY</b> Fletcher D. Richards, Inc.	11	<b>UNITED STATES STEEL CORPORATION</b> Batten, Barton, Durstine & Osborn, Inc.	138
		<b>UDYLITE CORPORATION</b> Zarker Advertising Company	126
<b>RANNEY METHOD WATER SUPPLIES, INC.</b> Cye Landy Advertising Agency, Inc.	136	<b>VICKERS INCORPORATED, DIVISION OF SPERRY RAND CORPORATION</b> Witte & Burden	10
<b>RECORDAK (SUBSIDIARY OF EAST- MAN KODAK COMPANY)</b> J. Walter Thompson Company	107	<b>VICTOR ADDING MACHINE CO.</b> John W. Shaw Advertising, Inc.	113
<b>RECORDAY COMPANY</b> REMINOTON RAND, DIVISION OF SPERRY RAND CORPORATION 71, 73, 75	82	<b>VISI-SHELF FILE, INC.</b> Ritter, Sanford & Price, Inc.	102
<b>REVO-FILE DIVISION, THE MOSLER SAFE COMPANY</b> Stockton, West, Burkhardt, Inc.	85	<b>WAGNER ELECTRIC CORPORATION</b> Arthur R. Mogge, Inc.	141
<b>REVOLVATOR CO.</b> Fredricks & Company, Inc.	139	<b>WASSILL ORGANIZATION, INC.</b> James R. Flanagan, Advertising Agency	84
<b>RIM STANDARDS INSTITUTE</b> VanAuken, Ragland & Stevens	121	<b>WATSON MFG. CO., INC., ROL-DEX DIVISION</b> Griffith & Rowland	115
<b>ROURA IRON WORKS, INC.</b> Marsteller, Rickard, Gebhardt and Reed, Inc.	140	<b>WELLS CARGO, DIVISION OF PRAIRIE SCHOONER, INC.</b> Juhl Advertising Agency	106
<b>RUST-OLEUM CORPORATION</b> O'Grady-Anderson-Gray, Inc.	31	<b>WEST BEND EQUIPMENT CORP.</b> Morrison-Greene-Seymour, Inc.	13
		<b>WESTERN UNION TELEGRAPH CO.</b> Benton & Bowles, Inc.	88-89
<b>SAF-T-LOK MANUFACTURING CO.</b> Sales Engineering and Training Co.	140	<b>WESTON, BYRON, COMPANY</b> Walter B. Snow & Staff, Inc.	82
<b>SET SCREW &amp; MFG. CO.</b> VanAuken, Ragland & Stevens	125	<b>WHEELABRATOR CORPORATION</b> The Jaqua Company	24
<b>SKELLY OIL COMPANY</b> Bruce B. Brewer & Co.	14	<b>WIGTON ABBOTT CORP.</b> Lee-Stockman, Inc.	157
<b>SOO LINE RAILROAD</b> Grubb-Cleland Co.	146	<b>WYANDOTTE CHEMICALS CORPORATION</b> Brooke, Smith, French & Dorrance, Inc.	35
<b>STANDARD OIL COMPANY (INDIANA)</b> D'Arcy Advertising Company	22		

## DUN'S REVIEW and Modern Industry

99 Church Street, New York 8, N.Y.

A. M. SULLIVAN, Editor

VIOLA V. ANDERSON, Administrative Assistant

M. JOSEPH DOOHER, Executive Editor

RICHARD L. KRAYBILL, Managing Editor

CLARENCE SWITZER, Art Director

ANNETTA R. GARDNER Industrial Editor H. LORRAINE CARSON Business Conditions Editor THOMAS KENNY Marketing Editor

ALFRED G. LARKE Employer Relations Editor JOSEPH A. D'ANDREA Statistician

Associate Editors: GROVER AMEN, MICHAEL JOYCE, JOHN W. RIDAY

Contributing Editors: EDWIN B. GEORGE, RALPH J. WATKINS

Production Manager: ROY PAKANSKY

ALEX J. DUGHI, Advertising Manager

New York (99 Church St.): GEORGE MATERNIAK, MARK McDONALD,

FREDERIC A. EWALD, BERT BERNE

Philadelphia (3 Penn Center Plaza): ALVAH B. WHEELER

Arlanta (1722 Rhodes-Haverty Bldg.): B. F. COGHILL, MORGAN PIERCE

Pittsburgh (5215 Centre Ave.): VINCE WINTERHALTER

Chicago (300 W. Adams St.): JOHN KROM, RALPH O. MCGRAW

Cleveland (629 Terminal Tower): WILLIAM BURELIGH

Detroit (1100 Cadillac Tower): CARL NEPPACH, JR.

Los Angeles (610 South Main St.): WALTER HUCKINS

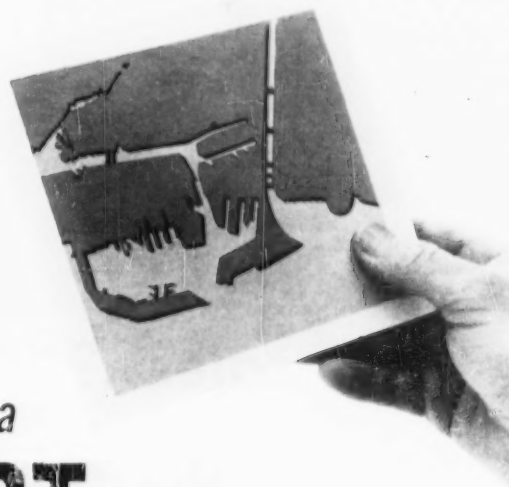
NORMAN C. FIRTH, Publishing Adviser

WALTER F. GRUENINGER, Circulation Director

Published monthly by Dun & Bradstreet Publications Corporation. J. Wilson Newham, President; Norman C. Firth, Alva B. Wheeler, Alex J. Dughi, Vice-Presidents; D. W. Dornon, Treasurer; Wilbur N. Bingham, Secretary; Viola V. Anderson, Assistant Secretary.

MODERN INDUSTRY

## Locate your California plant in industrial Long Beach



where  
there's a

# PORT in the picture!

1,736 CARGO SHIPS AND TANKERS  
IN AT THE PORT IN 1955...  
RECIPROCAL RAIL SWITCHING  
IN INDUSTRIAL AREAS...  
2,100 COMMON, CONTRACT OR  
RADIAL HIGHWAY CARRIERS...  
AIR PASSENGER AND CARGO PLUS  
'COPTER MAIL AND TAXI SERVICES...  
FAST FREEWAY DELIVERIES  
LOCALLY AND STATE-WIDE...  
SPACIOUS PORT AND  
COMMERCIAL WAREHOUSING

Count off the shipping potentials of industrial Long Beach as a West Coast plant site for your people! Excellent transportation? Yes, but you need to know more than that; our splendid modern seaport, freight forwarding services a-plenty, through and local line trucking to all Western markets, metropolitan air cargo service, merchandise car expediting, double-trailer hauling—you need facts like these to decide. So save time and money—start with the data we have ready for you! We'll help you with the rest, in absolute confidence.

## AMERICA'S MOST MODERN PORT...

one of 12 distinct advantages to industry

Mechanized...

Deep Water...

Fire-Safe  
Transit-Sheds...

Wide Apron  
Wharves!

is just a quick cross-town haul from any industrial Long Beach site. Fast mechanized cargo handling speeds traffic through this protected, deep-water harbor. Clearspan steel-and-concrete transit sheds are the world's finest. Low shipping rates cut operation expense.

Fill out and send in the coupon now for facts about industrial Long Beach and America's Most Modern Port.



Now! Send for FREE color Book!

Long Beach Chamber of Commerce  
121-D Linden Avenue  
Long Beach 2, California

☐ Please send NEW color brochure on industrial Long Beach.  
☐ Send me your quarterly Port news magazine, "Harbor Highlights."

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

**LONG BEACH, CALIFORNIA**

**Want to  
pick up  
sales..?**

**...then  
pick up  
the  
telephone**



Haentze Floral Company, a wholesale florist in Fond du Lac, Wisconsin, recently began to make *planned* use of the telephone to obtain new out-of-town business and keep in touch with distant customers.

Results? Sales increased \$36,000, in just six months. And Haentze Floral Company's success with sales by telephone is not unique.

**We'd like to show you how the telephone can fit most profitably into *your* operations. Just call your Bell Telephone Business Office and a representative will visit you.**

**LONG DISTANCE RATES ARE LOW**

*Here are some examples:*

New Haven to New York . . . . .	45¢
Baltimore to Pittsburgh . . . . .	80¢
Chicago to Atlanta . . . . .	\$1 <sup>35</sup> / <sub>100</sub>
Dallas to Cleveland . . . . .	\$1 <sup>20</sup> / <sub>100</sub>
Milwaukee to Los Angeles . . . . .	\$2 <sup>20</sup> / <sub>100</sub>

These are the *daytime* Station-to-Station rates for the first three minutes. They do not include the 10% federal excise tax.

***Call by Number. It's Twice as Fast.***

BELL TELEPHONE SYSTEM





**Q. What made Hamm-Tex decide to lease trucks?**

**A. Easy. They found out about The Hertz Idea!**

**Q. Is that the answer to trucking problems?**

**A. You bet! And it's the economical way to keep the right truck on the job.**

Keeping delivery schedules on time just means good business to the Hamm-Tex Distributing Company of Houston, Texas. That's why they put The Hertz Idea to work for them. And that's why thousands of companies—all over the country—deliver their goods with trucks leased from Hertz.

Doesn't matter whether you need one truck or a hundred, The Hertz Idea of truck leasing is the answer for any business tired of wrestling with truck problems. Matter of fact, it's the only answer that's sure to give you a new lease on trucking. Here's why:

**You turn all maintenance problems over to Hertz.** Just think. You can stop worrying about who's going to wash, service, fuel, repair and insure your trucks. *Hertz takes care of everything!* Even paints leased trucks to look like your own. All you do is supply the drivers. Another thing—just a phone call to Hertz gets you extra

trucks whenever you need them. That way you never pay for idle trucks.

**You get just one periodic bill from Hertz.** This gives you a complete breakdown of your truck costs. It automatically ends the need for carrying high overhead costs on your books. For with Hertz handling all truck maintenance, you're free from paying for truck accounting, repairs, servicing, special equipment and big truck maintenance payrolls.

**You sell the trucks you now own to Hertz.** For full cash value! Hertz will keep them in service, or if necessary, replace them with modern GMC's, Chevrolets or other sturdy trucks. Either way, leasing takes your capital investment out of trucks and lets you take advantage of new tax gains! Skilled Hertz Truck Engineers make sure that the trucks you lease are properly engineered and insured to meet your special

needs. What's more, you'll find that the trucks you lease usually cost no more than the trucks you're now operating. Chances are, even less!

#### **Free Trucking Analysis**

Most likely, if you own trucks, you've got problems. How to end them? The first step is to let Hertz make a free analysis of your truck needs. That's what Hamm-Tex did. How about it? Isn't it time your company looked into The Hertz Idea? All it takes is a call to Hertz, the world's largest truck leasing organization. Your local Hertz Truck Rental office is listed under "H" in the phone book. Hertz Truck Rental, 218 South Wabash Ave., Chicago 4, Illinois.

*Most experienced... by far*

**HERTZ**  
Truck rental



**"My Niagara Cyclo-Massage® Chair is wonderful . . .  
relieves tension and fatigue  
in no time at all"**

JOHN S. HEWITT



JOHN S. HEWITT  
President  
Anahist Co.

"There's nothing quite like a leisurely 'ride' in one of the new Niagara Chairs. In the middle of the day, I like to lean back in mine and let the cyclo-massage motors relax tired muscles and nerves. The Niagara Chair is a wonderful aid to comfort and health . . . and it would, I think, be a delight to any busy executive."

Now you can help increase circulation, ease tension, and improve physical condition—easily, comfortably—while you read or rest.

The Niagara Lounge Chair is a beautiful reclining chair of simple, conservative lines that contains three Niagara Cyclo-Massage motors. Exhaustive research engineering has made possible this amazing equipment, and medical research confirms its remarkable muscle relaxant and sedative effects.

If you want the sensation of a lifetime, just sit in the Niagara chair. Ease back to your most comfortable position, turn on the motors, and . . . aaaahhhh . . . that's it. Care and wears of mind and body float away. You are but half-conscious of a marvelous action, like thousands of tiny fingers gently stroking, kneading, reaching deep, DEEP down to manipulate and comfort every muscle and joint in your body.

You owe it to yourself to try the Niagara Chair or, at least, to get complete details on it. Send coupon for complete details including beautiful, full-color brochure.



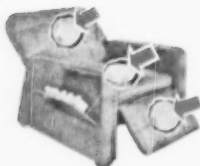
Niagara Massage is available in many models to suit every need and condition, including the comfortable EXECUTIVE CUSHION for use on desk chair, and the THERMO-CYCLOPAD, right, combining heat and massage to help relieve pain of chronic arthritis, bursitis, fibrositis and rheumatism. Send for complete details.



Thermo-Cyclopad



Executive Cushion



Buried in the deep, foam-rubber cushions are three cyclo-massage motors . . . not common vibrators but duplicates of the motors used in Niagara Massage equipment built for hospitals, clinics, and athletic teams.



**SEND FOR FREE BOOKLET**

NIAGARA, Dept. DR-106, Adamsville, Pa.  
Send me details on Niagara.

Name \_\_\_\_\_  
Address \_\_\_\_\_

IN CANADA: MONARCH MASSAGE, LTD., FORT ERIE, ONTARIO  
Copyright 1956 Niagara Mfg. & Dist. Corp.



CURRENT PERIODICAL SERIES

PUBLICATION NO.: 202

TITLE: DUN'S REVIEW AND MODERN  
INDUSTRY

VOLUME: 69  
70

ISSUES: 1 - 8  
1 - 6

DATE November 1956 - December 1957

This publication is reproduced by agreement with the publisher. Extensive duplication or resale without permission is prohibited.

University Microfilms, Ann Arbor, Michigan,